American Gas Association MONTHLY

The CP Rangers Take the Field

•

Gas at the San Francisco Fair

•

Advertising Romance in Gas

•

Low-Cost Housing Opportunity

•

Acres of Diamonds in Gas Load

February 1939

VOLUME XXI NUMBER 2

MIRACULOUS NEW GAS RANGES MAKE WOMEN BETTER COOKS

MODERN GAS RANGES

have these amazing time- and work-saving features. You'll be thrilled at the way they will improve your cooking—save you money.

- **CLICK SIMMER BURNER**—Dependable low economy flame with "click" signal for waterless cooking.
- **AUTOMATIC LIGHTING**—No matches to strike—No waiting—Instant heat.
- **GIANT BURNER**—For fastest top-stove cooking ever known. Extra wide heat spread for large utensils.
- **NEW TYPE TOP BURNERS**—Direct flame toward bottom of utensils—save gas—won't clog.
- **SMOKELESS BROILER**—Perforated grill keeps fat away from flame. Eliminates smoke.
- **HEAT CONTROL**—Assures *exact* oven temperature required. No more "guess-work" baking.
- **BALL-BEARING ROLLERS**—Give "finger-tip control" on broiler and utensil compartments.
- **FAST PRE-HEATING OVEN**—Reaches highest oven heat in fraction of time required by ordinary ranges.
- **SLOW-ROASTING OVEN**—Holds 250° for "long term" cooking. Temperature doesn't creep up.

NOW CHECK THE FEATURES YOU HAVE ON YOUR PRESENT RANGE!

● You'll be able to make all sorts of new dishes on a modern Gas Range! Dishes you never dared try before!

These automatic Gas Ranges have such exact temperature control all you do is follow the recipe and you're *bound* to win! New *high* temperature up to 500° bakes pop-overs that are beauties. With the new controlled low temperature you can "slow roast" inexpensive cuts of meat 'til they melt in your mouth.

Conveniently high *smokeless* broilers make home broiling easy at last. Now you can go in for all those tempting grilled recipes—from steak to hot canapes.

Look at these handsome Gas Ranges at your Gas Company showroom or Appliance Dealers. Learn how much *faster* they are—how easy to keep clean.

There are few things that can give you as much comfort and satisfaction as one of these marvelous new Gas Ranges!

AMERICAN GAS ASSOCIATION

DO WATERLESS-COOKING on this new simmer burner which "clicks" when simmer stage is reached. Top burners on the new Gas Ranges give *instant intense* heat—with hundreds of gradations down to the "simmer flame."

NO GUESSWORK about this *heat-controlled* oven. It gives and holds any temperature you desire. A temperature signal lets you know when it's ready—another when the dish is done.

This SEAL represents the latest developments in cooking equipment. It stands for 22 super-performance standards established by the American Gas Association. Leading gas range manufacturers are now making de luxe ranges that include *all* 22 features. Such ranges are identified by the CP Seal which signifies "Certified Performance." All modern Gas Ranges have many of these features, in sizes and models to fit every pocketbook.

CP

LET GAS DO THE 4 BIG JOBS • COOKING • WATER HEATING • REFRIGERATION • HOUSE HEATING

American Gas Association MONTHLY

CONTENTS FOR FEBRUARY 1939

The nucleus of a nationwide selling organization, the first in the gas industry, takes shape in this issue. Frank Houston outlines a comprehensive plan which will be presented before the Mid-West Regional Gas Sales Conference in Chicago this month. It sounds like a rip-snortin' club with many incentives to gas range salesmen. . . . Gas takes a major part in the San Francisco Fair, which opens February 18, so the article by President Farrar, of the Pacific Coast Gas Association, is both timely and interesting. . . . With the mass market in the low-cost housing field, the gas industry has a real opportunity for load building. The A. G. A. program will help the gas company reap this harvest so don't miss John West's pertinent article. . . . In the second of a series of articles on the industrial and commercial end of our business, Frank Trembly says the commercial load is equivalent to "acres of diamonds" in our own back yard. . . . Is there romance in the gas industry, and should we advertise it? The Dayton company answers in the affirmative and Vice-President Long gives the reasons behind a splendid series of institutional advertisements.

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Tower of the Sun at the Golden Gate International Exposition

American Gas Association MONTHLY

JAMES M. BEALL, *Editor*

SIGNPOSTS OF PROGRESS
. . . Factors in the Domestic Gas Trend

A FEW facts stand out above all others in the picture of the gas industry in 1938 as painted by President Lauer in the last issue of the MONTHLY. These facts are so significant that they deserve repetition and comment.

First, the industry served a total of 17,135,000 customers, or 180,000 more than in the previous year. This gain was made in the face of severe competition from other fuels. It was made in spite of the fact that 1938 was a disappointing year to many other industries. It demonstrates that our industry is rendering an essential service and is fundamentally sound. Any industry which gains thousands of new customers each year enjoys abundant vitality.

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Second, is the gain in house heating sales in the manufactured gas industry, which amounted to 10 per cent. This gain was registered despite the mild weather prevailing over the greater part of the country. It carried forward a trend which has been strongly evident in recent years.

Third, and probably most significant, is the reversal of the downward trend in the sale of manufactured gas for domestic uses other than house heating. For the first time in eight years, the total sales of manufactured gas for cooking, refrigeration, water heating, etc., showed an increase. While the increase was small, 1.5 per cent, it was extremely satisfactory in view of the general economic trend. Reports from many companies indicate much greater gains than the national average. Surely these are encouraging signposts of the industry's progress.

What are the reasons for this sharp reversal of trend in domestic sales while general industrial activity was falling off? Were there fundamental changes in the gas industry itself? Are our sales methods more effective? Has our national advertising campaign been responsible? Or is it due to a perceptible change in the living habits of our customers?

These are questions which may logically be asked and deserve the attention of the industry. While it is too early for anything like an authoritative analysis, a few factors may be considered. Certain it is that there has been no fundamental change in the character of the gas business or the service it renders. As to whether that service is being sold better and is more thoroughly understood by the public, we believe the answer is decidedly yes!

Such cooperative undertakings as the development of the CP range, the national water heater and refrigerator sales contests, and the architects' and builders' program, have undoubtedly stimulated greater sales activity in the industry. These have been supplemented by more intensive local promotional efforts, some tying in with the national campaigns and others of purely local origin. The result has been a quickening pace and a more aggressive sales attitude throughout the industry.

That these sales efforts have been made more effective through the greater use of showmanship and dramatic presentation cannot be denied. The industry has replaced its plain clothes with thoroughly modern raiment. Today it is selling glamour, color, beauty and eye-appeal as well as engineering efficiency. In short, it has adopted a streamlined, ultra-modern selling technique that has caught the public fancy and is paying dividends.

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Without doubt, the national advertising campaign has been a powerful factor in the domestic sales picture. It is deemed more than a coincidence that the tide of domestic sales did not turn until after the campaign was well underway. The millions of messages directed at the home-maker in scores of publications could not have failed to wield tremendous influence.

Whether the living habits of the people have changed enough to have had any effect on the domestic consumption of gas is a matter of conjecture and will be ascertained only after careful consumer surveys such as that now being made by the Market and Economic Research Committee of the Commercial Section. Other factors may also have contributed to the upturn in the domestic sales curve but the fact remains that better advertising and selling have paved, and will continue to pave, the way for greater sales. All signs now point to the fact that this new era of enlightened selling is bearing fruit.

The CP Rangers . . . *A Hard Riding, Hard Hitting, Hard Selling Club*

Answering a long-felt need in the gas industry, the nucleus of a nationwide sales organization is outlined here by Mr. Houston as an integral part of the Association's far-reaching program to increase the sale of gas appliances. Full details of the program are being presented for the first time at the Mid-West Regional Gas Sales Conference in Chicago, February 9-11. Every gas company and more than 10,000 dealers will receive complete information on the CP Ranger Club early in February. Don't fail to enroll your company, salesmen and your dealers in this progressive undertaking which will increase the sales effectiveness of your organization.

By FRANK M. HOUSTON

Chairman, Domestic Range Committee

EVER since the art of selling was first practiced, there have been various organizations for salesmen based on awards given for selling ability. Probably the most notable of these organizations in modern times are the Toppers' Club of the General Electric Company and the B.T.U. Club of the Frigidaire Corporation. I mention these two organizations because for the past 15 years I have been familiar with their work and the enthusiasm they engender among the salesmen, and when you can get salesmen enthusiastic, then you have salesmen who will strive to get results not only for the direct commissions that they will earn, but for the additional remuneration and honors they can get from the national organization.

Now it is absolutely true that the two organizations mentioned are sponsored by manufacturers and the gas industry is lacking in manufacturers big enough financially to undertake such a project. We believe therefore, that the gas industry itself should undertake such an organization, just as it backed national advertising and made a success of it. Also, we should bear in mind that, with the CP water heater on the way, we have an additional appliance which would help a national organization.

The CP range has created unprecedented interest in gas for cooking by providing uniform high standards of cooking performance. The CP Ranger Club will create new interest in selling CP gas ranges by providing uniform high standards of selling performance with national recognition for outstanding achievement. It will be a challenge to each company to hit the trail with one of the greatest selling organizations in the country. It will be a challenge to each salesman to match his sales ability against top-notch gas range salesmen, not only in his own region but from coast to coast. It will give him a chance to earn the Badge and Certificate of Certified Performance Salesmanship—the symbols that mean new honors, new awards, greater self-confidence, wider personal prestige and increased earnings. These symbols will identify him from one end of the country to the other as an aggressive salesman and a sales builder.

Not only can the salesman win recognition in his own community, but he can win national distinction among all the gas range salesmen in the country! The CP Ranger salesman who leads in annual unit sales becomes National Commander of the CP Ranger Club and will receive all of the honors and awards that go with his top-ranking position. The second highest salesman will become National Vice-Commander, and the third, National Adjutant. That's not all! Each year the leading salesman in each region will be honored as Regional Commander.

The salesman who wins his spurs as a CP Ranger by selling 40 CP ranges in one year will receive a beautiful emblem, bronze, the first year; silver the second, and gold the third. This will distinguish him as a member of America's top-ranking selling fraternity. In recognition of the extra effort and ability required to sell 80 CP ranges in one year, a salesman in this class will win the honor of being a Star Ranger, and his CP Ranger Pin will be set with a brilliant full-cut diamond.

When a salesman has proved his sales ability by being a CP Ranger for four consecutive years, he will be awarded the special Royal Ranger badge in silver. If he qualifies as a CP Ranger for five years he will win this emblem in gold. Star ranger membership for four consecutive years will win the title of Royal Star Ranger and a gold emblem with one diamond for each year of accomplishment. With each of the above awards an engraved certificate attesting to Certified Sales Performance will be presented as a permanent record of selling ability. Every CP Ranger will receive a membership card as evidence of his achievement.

National Publicity

A noteworthy feature of the CP Ranger Club will be publication of *The CP Ranger,* a national magazine which will be distributed regularly to all gas range salesmen. All CP Rangers will be listed, together with stories of outstanding sales successes. Thus, in printed word and picture, the outstanding individual sales achievements will be broadcast throughout the country.

An outline of the rules of the proposed national organization is given below:

ELIGIBILITY—Membership in the CP Ranger Club is open to everyone promoting the sale of CP gas ranges. Utility salesmen, supervisors and sales managers may participate providing their local gas company has registered. Dealers and their salesmen may register and participate at no extra cost. Membership is for one year only and members must qualify each year.

UTILITY COMPANY REGISTRATION—To cover part of the cost of awards and honors, operating utility companies must register before their salesmen can apply for CP Ranger Club membership. Nominal registration fees are as follows:

Companies With More Than	*Annual Fee*
100,000 domestic gas meters	$75
50,000 to 100,000 domestic gas meters	40
20,000 to 49,999 domestic gas meters	25
5,000 to 19,999 domestic gas meters	20
1,000 to 4,999 domestic gas meters	15
Less than 1,000	10

DEALER REGISTRATION—No fee or special registration form is required. Only information necessary is dealer firm name, address and number of range salesmen.

QUALIFICATIONS—To become a CP Ranger in 1939, individual salesmen must personally sell 40 CP ranges. Supervisors, managers, and dealers become members when 75% of the salesmen they supervise are Rangers.

ANNUAL MEMBERSHIP—Ranger membership is for one year only. In succeeding year, salesmen must meet that year's requirements to retain Ranger status and privileges.

SALES REPORTS—Only sales of CP ranges installed between January 2 and December 31 will count toward membership. Utility sales apply only if company registration fee is paid on or before May 1 of current year. Otherwise, only utility sales made after the date of registration will be accepted.

Sales reports should be submitted as soon as possible after any salesman qualifies as a Ranger. Each report should be completely filled out, and mailed to CP Ranger Club, American Gas Association, 420 Lexington Avenue, New York, N. Y. Make of range, model number, date of installation, purchaser, and verification of dealer or utility executive are required information.

STAR RANGERS—Utility and dealer salesmen who sell 80 CP ranges during the calendar year become Star Rangers. Managers, supervisors, and dealers are elevated to Star Ranger positions when 100% of the men under their supervision qualify as Rangers.

ROYAL RANGERS—For a consistent record of sales achievement, Rangers for four consecutive years become Royal Rangers. Star Rangers for four successive years become Royal Star Rangers.

HONOR AWARDS—As soon as requirements are fulfilled, first-year members in the CP Ranger Club will receive a handsome bronze membership pin. Members for two years will receive a silver pin and, three-year members, a gold pin. Star Rangers will have a diamond set into the regular Ranger pins for each year they qualify as Star Rangers. Royal Rangers receive a distinctive silver badge, and Royal Star Rangers, a gold badge, carrying diamond awards earned and accumulated to date.

To receive his next highest ranking pin, a Ranger must return his previous pin. Where an award is lost, misplaced, stolen or mutilated beyond repair, a small replacement charge will be made.

NATIONAL OFFICERS—CP Ranger with the greatest number of CP range installations for the country, automatically becomes National Commander for the year following. Similarly, second and third highest Ranger salesmen are National Vice-Commander and National Adjutant, respectively.

REGIONAL OFFICERS—For each of the CP Regional Districts, a Regional Commander will be selected on the basis of the greatest number of installations made in the region. In home regions of National Officers, next ranking Ranger salesman becomes Regional Commander.

Emblems of achievement in the CP Ranger Club. Pins shown here will identify a salesman as a Ranger, Star Ranger, or Royal Ranger

Frank M. Houston

It is needless to tell you the advantages of such an organization. For the first time in the history of the gas range business, each salesman will know what other salesmen are doing and can learn from their experience. Then, too, we must look ahead not just for 1939, but for years to come. Eventually we will have CP Kitchens to sell, using a CP Range, a CP Refrigerator and a CP Water Heater, and the Rangers Club can be expanded to include the salesmen selling these appliances.

The "All-American" home which will be a part of the gas industry's exhibit at the New York World's Fair

"All-American" Gas-Equipped Home at New York Fair

AN "All-American" home to show visitors to the New York World's Fair how the typical American family may live "tomorrow," will be built by Gas Exhibits, Inc. as part of the gas industry's spectacular "Court of Flame" exhibit at the Fair. It will be done in cooperation with *Good Housekeeping* which will furnish and decorate it under the direction of Helen Koues, director of Good Housekeeping Studio.

In announcing the project, Hugh H. Cuthrell, president of Gas Exhibits, Inc., said: "The architectural inspiration for the house comes from a famous and thoroughly American prototype—an historic house outside of Baltimore, Maryland, called 'Homewood.' This famous post-revolutionary house was built by Charles Carroll, signer of the Declaration of Independence, for his son John, and embodies many architectural elements which Americans appreciate. Its over-all lines and dignified beauty have been retained in the modernized version. The modification of plan and exterior to meet present and future living conditions was done along lines determined by research into the preference of feminine America."

Dramatic Gas Demonstration

Planned as a feature of the gas industry's participation in the Fair, the house is being developed as a dramatic demonstration of what a house can be when the house heating, air-conditioning, water heating, refrigeration, cooking and laundry equipment are all powered by gas. It has been designed with the moderate income group in mind. The "All-American" home will be of white stucco, with roof, shutters and doorway in color. Its pillared portico will be "the type already familiar to Americans everywhere as the doorway to the White House and the homes of Washington and Jefferson." Of one story, it will have a dining room, living room, kitchen, four bedrooms, three baths and an extra lavatory, all with extra sized windows to conform to the modern demand for light and air. The tendency of the modern American family, say experts, is to live more and more at the back of the house, away from the street. Hence the wide windows of the living room open onto a terrace, where living can be done in the open as much of the year as possible.

The kitchen, pantry and utility room have been designed to embody all the best techniques in home management.

An all-purpose room adjoining the kitchen will house the modern gas heating, air-conditioning and laundry equipment. The kitchen itself, together with a pantry, will provide plenty of working space while including all the step-and-space-saving devices the moderns have learned so well. The newest types of gas range and gas refrigerator will take care of food problems.

The collaborating architects were Dwight James Baum, noted architectural consultant for *Good Housekeeping*, and Skidmore and Owings, John Moss Associate, architects for the gas industry's exhibit group.

Mrs. Roosevelt Likes To Cook with Gas

MRS. FRANKLIN ROOSEVELT has a private kitchen adjoining her bedroom in the White House, containing, in miniature, a gas stove, a sink and a refrigerator. There are shelves for dishes, pots and pans hang against the wall, in the drawers are towels, knives and forks. The First Lady likes to cook, and here she can do so without interference from a corps of servants—whip up a cake or scramble an egg.—GEORGE ABELL and EVELYN GORDON, Let Them Eat Caviar (Dodge).

I'd Like To Know

(From department under the above title by Helen E. Ridley and Helen W. Kendall in *Good Housekeeping* for February, 1939)

THERE is news, indeed, for you who are asking us what CP means on a gas range. This symbol stands for Certified Performance and means that the range has twenty-two definite features of performance and design. What's more, since the gas-range industry and not just one manufacturer has developed the CP ideal, you can choose a CP gas range made by one of a number of manufacturers. We have tested and approved several of these ranges.

The features include, together on one range, all those requirements that you have so long wished for, and in addition hidden values in construction and efficiency that you probably never thought of.

First of all the CP range must meet definite standards of construction and safety set up by the American Gas Association. The baking and broiling ovens of these ranges preheat faster, yet use less fuel; and of course the baking oven has an oven heat control. The ranges have automatic safety lighters on the oven and broiler as well as top burners—just turn the cock, the burner lights.

The baking oven will maintain a minimum temperature of 250° F., which is as low a heat as anyone would ever need for baking or roasting. The oven racks do not tip when withdrawn, and have catches to prevent them from falling out; and all drawers move in and out easily without sticking—which does away with two well-known annoyances. Oven vents are constructed to discharge away from the rear wall. The design of the broiler burner makes it possible to broil evenly over a greater area, and the broiler pans are, of course, of the smokeless, two-piece type.

In the top-stove section the heads of the burners are either finished in porcelain enamel or made of rust-resisting metal. There is at least one giant burner for extra-fast heating; all burners have simmer sections combined with them, and the efficiency has been increased—factors which tend to keep down the monthly bills.

These desirable features will make you wonder if it pays to put up with the inconveniences, discomforts, and expense of wasted fuel that are part of an outmoded range.

Gas on Parade at the Golden Gate International Exposition

By H. L. Farrar

President, Pacific Coast Gas Association

WHEN the Golden Gate International Exposition opens its gates to the public on February 18 the gas industry will be ready to tell its story to the millions of people who will pass through the turnstiles before the closing date on December 2.

Plans have been long in the making. The story of how the 400-acre fair site was dredged from San Francisco Bay; of how this Treasure Island lies equidistant between mainland Oakland and peninsular San Francisco; of how it is reached from either side of the Bay by bridge and ferry; of the difficulty and expense involved in laying the submarine gas transmission line; these and some of the glamorous features of the fair itself have been told in previous issues of American Gas Association Monthly. Also something has been told about the Gas Industry Exhibit sponsored by the Pacific Coast Gas Association and financed by western gas companies and both western and national manufacturers.

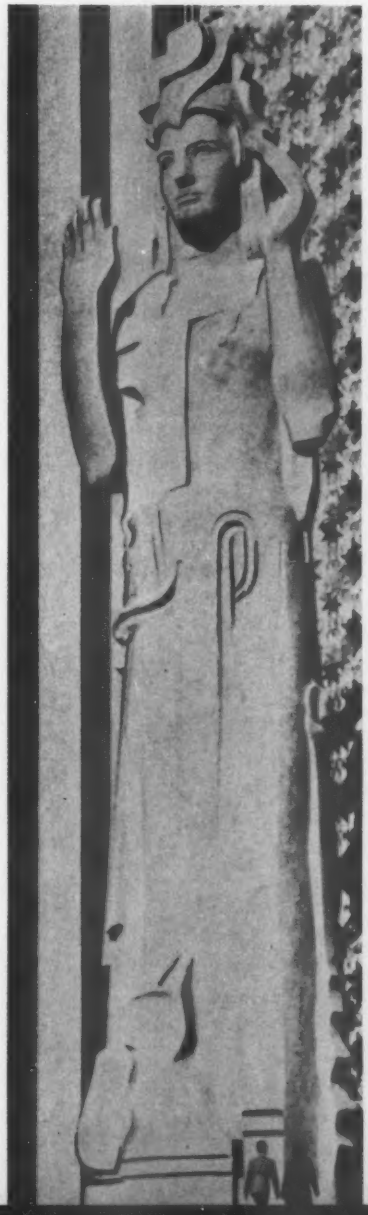
Enthusiastic Participation

That the original plans and procedures were established on a sound basis is indicated by the results obtained. The only changes have been additions and improvements made possible by the enthusiasm and support of the many manufacturers who have taken advantage of this opportunity to show their wares at a world's fair at a relatively small expense. A complete list of utilities and manufacturers who have contributed to the expense of the exhibit appears on a following page.

"GAS ON PARADE" is the theme of this year's work of the Pacific Coast Gas Association and this slogan epitomizes the purpose which it is hoped the exhibit will achieve. Gas men know the many incomparable qualities of gas fuel and of the marvelous appliances which have been devised for its use. The exhibit will tell and re-tell this story and will do it dramatically so as to catch the eye and stir the imagination.

The Gas Exhibit occupies some 12,000 square feet in the Homes and Gardens Building with the principal entrance to the building leading directly into it. Because of a desire to achieve an overall effect no space was sold to manufacturers, but instead they were invited to participate in a non-competitive visualization of the domestic use of gas in which their appliances would be featured. Before this invitation was issued nearly three-quarters of the estimated cost of building and operating the exhibit had been subscribed by gas utilities, enabling the cost of manufacturer participation to be set at fixed amounts designed to fill out the fund deemed necessary.

"Pacificia"



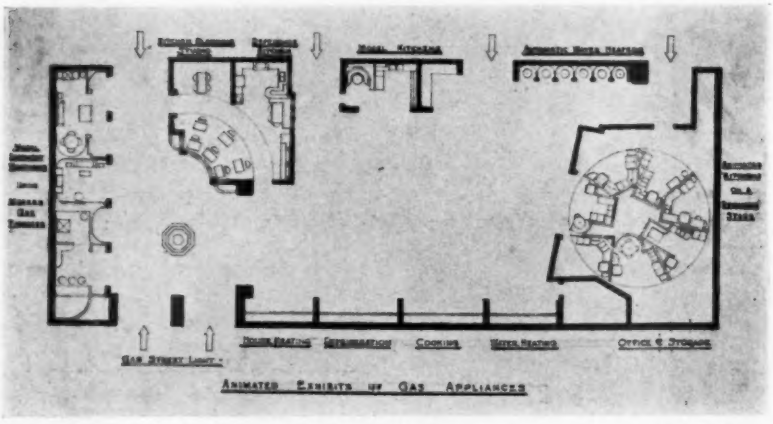
Appliance Settings Filled

While it is true that there was no great rush of applications immediately following the announcement of this procedure, its fairness and showmanship have never been questioned and as actual plans developed more and more manufacturers became interested. Now every originally conceived appliance setting has been filled and as many more created as could be done without marring the appearance of the exhibit. In consequence of this active manufacturer interest the financial goal has been over-subscribed by several thousand dollars.

A visitor passing through the main entrance of the Homes and Gardens Building finds herself in the foyer of the gas exhibit. Directly before her is an information booth built around and illuminated by a high pressure diadem gas street light loaned by General Gas Light Company. To her left is a series of three rooms, two of them basements featuring Pacific and Payne furnaces and designed as recreation rooms with card nooks, a bar and similar features. The center room is a living room illustrating the setting and use of a Ward floor furnace.

As the visitor's eye turns toward the right she sees an attractive Spanish structure and through its large window gets a glimpse of a model kitchen, a gallery of kitchen drawings in full color and examples of successful all

Artist's sketch of the gas exhibit at the San Francisco Fair



General floor plan of the gas exhibit, showing location of appliances and model kitchens

gas house plans available to mull over. This is the home planning bureau where people really interested can get authoritative information on heating, cooking, refrigeration and water heating. It will be manned by experts who will have close-by examples of all types of modern home appliances.

Turning still further to the right the visitor will look through a graceful archway into a larger open patio which has at its far end a Spanish bungalow with a huge window. As she looks there is a tinkle of chimes, the window opens and she sees revealed a portion of a beautiful kitchen.

We hope she will then approach closer, perhaps even to one of the seats provided for her because this kitchen is there to impress her with the fact that gas is truly the modern cooking fuel. As she watches the range begins to open. The cover slides back, the oven and broiler doors open and as each action takes place illustrative pictures appear in the kitchen window and a pleasant voice tells her all about it.

Animated Gas Displays

Following the demonstration of the range the Electrolux refrigerator may open or perhaps it will be a cabinet revealing a water heater or a forced air heater. There are seven such kitchens on the revolving stage each one featuring a different range. They are Wedgewood, Gaffers and Sattler, Norge, Magic-Chef, Universal, Spark, and Roper. The whole action is completely automatic and requires about thirty minutes or about four minutes for each kitchen.

Having seen and heard many things which are far beyond the wildest dreams of the average housewife, our fair visitor should be definitely interested. She turns again to the right and sees that the wall of the patio has been divided into four sections. Each of these sections is devoted to one of the domestic uses of gas. Here she can handle and have explained to her the ranges, refrigerators and waterheaters she has seen on the stage. Her husband can see the action and construction of furnaces as illustrated by cut-away models.

Appliances of all participating manufacturers will appear in these sections and manufacturers' literature will be distributed both at this point and at the information desk in the foyer. Each of these sections is backed by photo murals and eye-catching, illustrative animations.

Model Kitchens Installed

On the other side of the patio there are two kitchens installed by the Whitehead Metal Products Company. Both are complete and feature Monel metal furniture, but one is smaller and more moderately priced than the other. Adjacent to these is a water heater exhibit featuring also the Everdur tanks and copper pipe and fitting of the American Brass Company. The eight water heaters to be featured are Continental, Day and Night, General, Hoyt, Mission, Merit, Ruud and Welsbach. Here, too, will be demonstrated the gas-heated ironer of the Ironrite Ironer Company.

Adjacent to the water heaters and on the south aisle leading into the exhibit are two more rooms, one featuring the Atlas floor furnace and the other the Fraser floor furnace. These, like those at the other end of the exhibit, will be installed to illustrate the most approved practice and will be in actual operation.

The entire exhibit has been designed by L. E. Lindsay, and constructed under his supervision. Mr. Lindsay has been associated with many similar projects in the past and has achieved a national reputation for his artistry, showmanship and mechanical genius. The Pacific Coast Gas Association is

Participants in Cooperative Gas Exhibit at Golden Gate International Exposition

The American Brass Co., American Meter Co., Inc., American Stove Co., Art Concrete Works, Atlas Heating and Ventilating Co., Ltd., H. R. Basford Co., California-Pacific Utilities Company, Central Arizona Light and Power Company, Coast Counties Gas and Electric Company, Continental Water Heater Co., Ltd., Cribben & Sexton Co., Day & Night Water Heater Co., Ltd., S. R. Dresser Manufacturing Co., El Paso Natural Gas Company, Fraser Furnace Co., Inc., Gaffers & Sattler, General Water Heater Corporation, James Graham Manufacturing Co., Grayson Heat Control, Ltd., Hammer-Bray Co., Ltd., Honolulu Gas Company, Ltd., Hoyt Heater Co. of Northern California, Ironrite Ironer Company, Merco Nordstrom Valve Co., Merit Water Heater Co., Leo J. Meyberg Co., Mission Water Heater Co., Mueller Co., Norge Division Borg-Warner Corporation, Pacific Gas and Electric Co., Pacific Gas Radiator Co., Payne Furnace and Supply Co., Pittsburgh Equitable Meter Co., Portland Gas and Coke Co., Reliance Regulator Corporation, Geo. D. Roper Corporation, Ruud Manufacturing Co., San Joaquin Light and Power Corporation, Santa Maria Gas Company, Seattle Gas Company, Servel, Inc., Sierra Pacific Power Co., Southern California Gas Co., Southern Counties Gas Co., Sprague Meter Co., Ward Heater Co., Welsbach Company.

indebted to the Seattle Gas Company, of which he is display manager, for making him available during the period of the fair.

Mr. Lindsay will be assisted in the operation of the exhibit by A. L. Walker, to whom the Pacific Gas and Electric Company has given a leave of absence. Mr. Walker, as a division sales manager of the P. G. and E. has acquired an enviable record for showmanship not only in conducting the sales program of his division but in staging many elaborate pageants for the Company's Employees Association.

All attendants will be employed by the Association. About ten will be ready at the time the fair opens and others will be employed later if it becomes necessary. While all attendants will be people experienced in gas appliances, they will be given a three weeks' training period prior to the opening, and in this training the participating manufacturers are being asked to aid.

The exhibit is now about 80 per cent complete. All mechanical exhibits are being built in San Francisco and will be moved to the fair grounds early in February.

This whole project is being conducted directly by the Pacific Coast Gas Association through a committee headed by R. E. Fisher, vice-president of Pacific Gas and Electric Company. Members are H. L. Farrar, president of Coast Counties Gas and Electric Company, and president of the Association; R. A. Hornby, vice-president of Pacific Lighting Corporation; H. R. Bosford, president of H. R. Basford Company, representing water heater manufacturers; Don Fleming of San Francisco, manager of Payne Furnace and Supply Company, representing furnace manufacturers; and E. J. Hinchey of Jas. Graham Manufacturing Company, representing range manufacturers.

The committee feels that everything possible has been done to make the gas industry exhibit one of the most noteworthy and spectacular commercial exhibits at the San Francisco Fair. There is, however, a full realization that the final test lies in public appreciation and insofar as the budget will permit special features and attractions will be offered from time to time to stimulate interest and increase attendance.

South Gardens—1939 World's Fair on San Francisco Bay

Low Cost Housing . . . *A Load-Building Opportunity for the Gas Industry*

By J. W. West, Jr.

Director, Home Appliance Planning Bureau

HOME building prospects for 1939, when considered in the light of recent trends in the consumption of gas for domestic purposes, unfold a growing opportunity for load building. The decline in domestic gas sales following the depression lagged two or more years behind the reduction in the sale of gas for industrial purposes. Later, as was to be expected, increased sales in the residential field also followed those occurring in the industrial category when total domestic gas sales began to climb upward in 1937.

The average annual gas consumption per residential customer (exclusive of house heating) fell off 15% in the natural gas field and 20% in the manufactured gas branch between 1930 and 1937, but a most encouraging and significant change took place during 1938 when this downward trend was arrested in the natural gas branch and reversed by a substantial margin in the manufactured gas field.

Standard Statistics noted this favorable omen for increased gas sales when its bulletin of December 14 referred to "the all important residential sales as having registered improvement." These figures do not include the sale of gas for residential house heating which showed an increase during every year throughout the depression. During this period manufactured gas jobs increased 380% since 1929 and the year of 1937 closed with more than 2,225,000 homes in the United States heated with gas.

This recent growth in residential gas sales, which provides nearly 70% of the revenues of the entire gas industry, shows a growing public appreciation of the value of gas service for the 4 Big Jobs in the home and forecasts greater sales in the homes to be constructed in 1939, if the industry takes full advantage of its opportunities.

What Is the 1939 Market?

Although for the past several years expected building booms have not materialized, it appears that 1939 will be the most productive building year since 1930, with more than one and a half billion dollars expended for residential housing. Estimates from reliable sources indicate that 500,000 new housing units will be built in the United States during 1939 as follows:

Apartment units by the United States Housing Authority for low cost housing and slum clearance developments	100,000
Multiple family dwellings, three families and up, private construction	125,000
One and two family houses, private construction	275,000

Where Is the Market?

Recognizing that every family in the country must have housing facilities, it is to be noted that every family is not a prospective purchaser of homes. The extent of the individual home market, therefore, is dependent upon not only the prices of newly built homes but also upon the number of families whose incomes are adequate for the purchase of homes. Using the time-tested theory that the cost of a home should not exceed twice the annual family income, the following data prepared by the Federal Housing Administration in 1937, which have not substantially changed, clearly define the scope of the market for non-farm housing:

A. 75 per cent of the families have estimated incomes of less than $2500.

B. 44 per cent of these families have incomes of $1000 to $2500.

C. A considerable number of these families are prospects for homes costing under $5000.

In the past new home construction has been limited chiefly to families with incomes between $2500 and $5000 per year, with the housing cost being from $5000 to $10,000.

1. Only 16 per cent of the families, however, can afford houses ranging from $5000 to $10,000.
2. Two and a half times as many families are potential prospects for homes under $5000 as there are for homes over $5000.

Returns from surveys made throughout the country show that the building increases for 1939 will be general in scope and not confined to any particular section. The chart below indicates the anticipated 1939 building volume compared with 1938 in residential construction only for 15 key metropolitan areas representing all sections of the country.

City	*Residential*
Boston	up
Chicago	+45
Cleveland	+35
Detroit	+40
Houston	+15
Kansas City	+20
Los Angeles	+20
Louisville	+15
Miami	+10
New Orleans	+85
New York	+15
Philadelphia	+35
San Francisco	+15
Seattle	+35
Washington	+20

Reprinted from The Architectural Forum for January, 1939.

Who Controls the Market?

There are many factors which affect the market for residential gas service which vary according to existing local conditions. Taking the national market as a whole, however, it is found that it is controlled by the architect, builder, contractor, and the consumer, one or all of them. Through our National Advertising Program much is being done to offset competition and to sell the consuming public on the merits of gas service and gas burning appliances for the home, and utility companies are progressing rapidly in the education of local plumber-dealers

Question:
WHAT CAN WE DO ABOUT THE BUILDER
A key man in the Gas Industry's future
?
Answer:
A. G. A. ALL-GAS HOME BUILDERS' COMPETITION

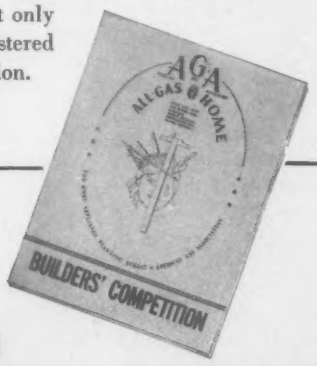
Present trends in building make the builder and his architect all-important factors in deciding what fuel will be used in the homes America is building. Particularly in 1939, when we may see the pace of building reach out-and-out boom proportions. These men must be convinced of the superiority of gas. The A. G. A. Builders' Competition is the best possible answer to this immediate and all-important problem. The requirements and the opportunity to win a share in $10,000 in prize money will encourage the builders in your community to build and feature all-gas homes.

HOW TO GET BUILDER CO-OPERATION

Each utility should inform the local builders of the opportunity that this competition affords. A letter should be sent to every builder at once, in addition to personal contact efforts. This letter should describe the prizes available; explain that any house built or modernized between July 31, 1937 and July 31, 1939, is eligible if it uses gas for the "four big jobs"; explain the simple requirements of the competition, and urge the builder, as a first step, to register for the competition. This can be done by merely mailing a card to the address below stating that he wishes to enter the competition, upon receipt of which we will forward him complete details. (A suggested form for this letter and entry card may be obtained by writing us.) *Act quickly! Take advantage of this opportunity for winning the builders of your community over to gas!*

• • •

The whole story of the Builders' Competition is contained in this manual which has been sent to every member company delegate. (One additional copy is available to any utility on request.) This manual is also furnished to every entrant, but only after he has registered for the competition.



HOME APPLIANCE PLANNING BUREAU
American Gas Association 420 Lexington Avenue New York City

and heating contractors. Therefore, it remains to make a determined effort to sell architects and builders if we are to be successful in obtaining the new home market.

Information from reliable sources discloses the following regarding the 400,000 one, two and multiple family homes to be built in 1939:

Houses built on contract, architecturally supervised	7%
Contract houses by builders who provide plans and have full control of job	30%
Lumber dealer controlled projects, including rural houses	18%
Speculative houses by large operators on tracts, 30 to 300 houses per year	15%
Speculative houses by small operators on single lots 3 to 30 houses per year	30%

A Program To Tap Your Home Market

Recognizing that the home market is important and is being attacked by competition at a time when building and construction promises to be very active and that new houses largely set the pattern for modernization and the replacement market, the American Gas Association in 1937 formed the Home Appliance Planning Bureau at Association Headquarters. The function of this Bureau is to carry out the promotion of a three part program designed to inform the architectural and building professions more fully of the value and advantages of gas service and to coordinate their activities with other housing programs in an effort to substantially increase the use of gas.

Through the efforts of the Bureau many of the homes constructed under the housing program sponsored by *Life* magazine have been all-gas, and the Bureau is actively engaged in programs to increase gas publicity among the architectural, building and women's and home magazines.

The first part of the program—an architectural competition for the design of ALL-GAS HOMES—met with great success, with over 5,000 of the outstanding architects and designers representing every state in the United States and the Dominion of Canada registered in the competition. Each of these competitors was furnished with complete information and specifications on gas and gas appliances and their installation in the home. This material was set up in attractive style and in book form and the competition was so devised that it was necessary for the competitors to study the data. The fact that these architects have studied it and do have it in their files must result in the increased selection of gas and gas appliances in their future designing and planning activities.

The full success of the second and third parts of our program depends largely upon the active cooperation of the local gas utility companies in the future. Part II—the builders' competition—has been fairly successful to date, with over 1500 builders officially registered in the competition which closes July 31, 1939. Part III—the ALL-GAS HOME Demonstration Program—with homes sponsored and demonstrated by the local utility companies in 16 cities, viewed by several hundred thousand persons, is progressing apace. These homes have been built in Hartford, Connecticut; Washington, D. C.; Syracuse, New York; Ann Arbor, Michigan; Milwaukee, Wisconsin; Dallas, Texas; White Plains, New York; and other cities, and reports indicate that a considerable number are planned for Spring construction.

How To Tap the Market

One of the existing impressions that our industry must overcome is the belief that gas and gas appliances are comparatively expensive. This can be accomplished in a large measure by the installation of gas in homes in the low cost bracket. While there is a valuable market in the housing field above $10,000, it should be recognized that the mass market for housing and home appliances is for homes which cost less than $5000. The success of having several low-cost homes in the territory of local utility companies equipped with gas and gas appliances for the "4 Big Jobs" will do more toward breaking down current ideas which may exist among other builders and the consuming public regarding gas than anything else.

Particular attention should be paid by the local utility company to the low-cost housing developments sponsored by the United States Housing Authority throughout the country. Information regarding these developments is being sent by the Association to all utility companies in whose territory they are to be located. Cooperation with local lumber dealers who, through their vast organization are building a considerable number of homes, is also urged. The supplying of all local architects, through personal contact if possible, with the latest available information on gas and gas appliances will pay dividends.

In order to interest builders in gas and to spur the construction of ALL-GAS HOMES, the American Gas Association is now conducting a builders' competition and has appropriated $10,000 in prizes. This competition is clearly defined on the succeeding page. Complete information and details regarding all phases of the program have been sent to your member company delegate and your cooperation and assistance are earnestly solicited in urging your builders to register in this contest.

First Doctor of Gas Engineering Dies

Dr. Logan

DR. LLOYD LOGAN, head of the chemical engineering department of the College of Applied Science, Syracuse University, died Dec. 29 at the age of 47 after a long illness.

Before becoming associated with the University in July, 1937, Dr. Logan was for 10 years a member of the engineering faculty of Johns Hopkins University. He was the first candidate to receive the degree of Doctor of Engineering in gas engineering at the Johns Hopkins University.

Prior to coming to the Johns Hopkins University in 1926, Dr. Logan had been actively in charge of engineering and research projects for the Koppers Company, builders of by-product coke and gas plants. The inventor of improvements in gas purification and of several chemical control devices, he had written many articles for professional journals.

Born at Wallace, N. S., he attended the Massachusetts Institute of Technology, Columbia University, the University of Pittsburgh, Johns Hopkins and the Royal Technical College, Glasgow.

He was a member of the American Chemical Society, American Institute of Chemical Engineers, American Society of Mechanical Engineers, Society for the Promotion of Engineering Education, American Association for the Advancement of Science, American Gas Association and the Franklin Institute.

Acres of Diamonds . . .

the Commercial Gas Load

By FRANK H. TREMBLY, JR.

Chairman, Industrial Gas Section

THE gas industry has, to some extent, repeated the experience of the character in Dr. Conwell's famous lecture and, after exploring distant fields in search of a fortune, returned to find "Acres of Diamonds" at its very doorstep. These "Acres of Diamonds"—this near-by fortune—has been the commercial gas load, which, until recent years, has developed largely without cultivation or particular recognition on the part of our industry. The commercial gas load is comprised of that vast group of customers lying between the strictly residential gas users on the one hand and the strictly manufacturing or industrial gas users on the other, and is probably the least understood and least appreciated load that our industry possesses.

What Is Our Commercial Gas Load?

The classification includes Hotel, Restaurant and Institutional Gas Sales as a distinct major sub-division, and what we have just said above is not entirely correct with respect to this part of the commercial gas load. Much constructive work has been done in this specialized field, and in it the gas industry is generally well represented by sales personnel. But the commercial end of our business includes a lot more than commercial cooking.

The remaining portion of the commercial gas load—usually about one-half of the total—is the load to which particular reference is made above, and the load which will be discussed at greater length in this article. This general commercial load includes all commercial establishments (wholesale or retail) serving the public, other than hotel, restaurant and institutional customers. In this category are included: tailor shops, beauty shops, corner bakeries, drug stores, food stores, department stores, printing shops, apartment houses (other than the individual apartments), loft buildings, and so on all the way down Main Street. This load constitutes from 5% to 10% or more of the total sales of almost every gas utility.

- **Last month, in the January issue of A. G. A. MONTHLY (page 14), Mr. Trembly discussed the general characteristics of the entire non-residential portion of our national gas send-out—industrial and commercial combined. This month he interprets and evaluates the commercial phases of the non-residential load as distinct from the strictly manufacturing or industrial. He demonstrates that potential business from the tailor, the baker, the beauty shop, the chain store, the restaurant—in fact almost any type of retail or wholesale establishment—represents "Acres of Diamonds" in our own backyard.**
- **You will find ideas in this discussion and others to follow in future issues.**

Commercial Load Is Profitable

The gas industry recognizes the need for new and additional revenue, particularly in the higher rate brackets, to offset the effects of house heating sales and to maintain the proper average rate. The commercial load is admirably suited to meet these requirements, since it is characterized by the following factors, which insure a profitable return to the utility:

HIGH CONSUMPTION PER CUSTOMER: The average consumption varies from 200 to 2,000 therms per year, depending upon type of customer and comparative prices of gas and other fuels.

LOAD OBTAINED IN UPPER RATE BRACKETS: These customers are generally served on rates that are comparable to residential service rates.

LOW COST OF SERVICING: Most of the commercial appliances are relatively large unit gas consumers and require a minimum of servicing.

LOW COST OF OBTAINING NEW LOAD: Proper sales contacts can be made at a very low cost per dollar of revenue.

EXCELLENT LOAD FACTOR: Except for the influence of the space heating load (where such has been obtained in considerable volume with commercial customers) the monthly commercial gas consumption is relatively uniform —more so than either the residential or straight industrial loads.

SECURITY OF LOAD: The commercial load has shown remarkable strength in the past nine years, having lost but relatively little even during the low years of 1932 to 1934, and now exceeds 1929.

A PROFITABLE LOAD: The low unit cost and the relatively high revenue per commercial customer, when analyzed, will show that this class of customer is probably the most profitable for the average gas utility.

Commercial Load Not Fully Appreciated

There are many reasons for the lack of full appreciation on the part of our industry of the important commercial load. There is a very wide variety of commercial gas applications that cannot be easily classified—a variety which does not lend itself readily to standardization, study or analysis. Because of this, approaches to this field have not always been easy.

The individual appliance consumption is usually not spectacular, and may not receive much recognition until many hundreds or thousands of any particular type of installation have been made. Commercial gas applications have consistently lacked the appeal of the larger, more dramatic, industrial uses, and hence, have received less attention.

Commercial gas equipment is, for the most part, not made by manufacturers closely associated with the gas industry, and has not usually been sold and installed by the gas utilities. Both the manufacture and distribution of this equipment has been largely outside the industry, and, therefore, promotional help on the part of the gas utilities has not been general.

Certain utilities have long had aggressive and productive departments assigned exclusively to the development of the commercial gas load, but, to a considerable extent, this load "just growed" like Topsy, without attention, sales effort, or a general understanding of its nature on the part of the gas industry.

It grew because gas is easy to burn, convenient and readily available to commercial establishments. It grew because other fuels had not as yet been fully developed for these applications. It grew in spite of much inefficient equipment and many crude applications by manufacturers not specifically associated with the gas industry. Here is a striking example of the selling strength of non-utility sales agencies, and one that the gas industry can well take to heart, in evaluating the sales assistance of external agencies.

In view of what we have said above, the direction which appliance development and fuel application has taken, strongly indicates the need for closer utility cooperation. If this cooperation had been extended to a greater extent in the past, the present load would have been much greater; better customer relations would have been obtained, and the industry would have greater security in its present commercial business.

Subject to Competitive Attacks

The profitable commercial gas load has been subject to competitive attacks along a number of fronts. For example, tailors whose consumption varies from 25 to 75 therms per month have in some areas turned to coal or oil in place of gas in search of lower operating costs; beauty parlors are reconsidering the use of electric hair dryers; the counter cooking load in many commercial eating establishments is going strongly electric; the commercial water heating load, in some localities, is being threatened with oil; and there is a long range threat of electricity against the heavy duty gas commercial cooking load.

In making this statement, however, it should be borne in mind that it is not too late to correct this condition. This review of threatened losses is given only by illustration, in the firm belief that proper attention given to the sales aspects of this problem, together with applications of proper and efficient gas equipment, will assure the retention and growth of this load. Our industry enjoys a large and profitable revenue from this class of gas service, and it need but grasp the opportunity that it has now to retain this load and insure its growth. A number of utilities have already taken decisive steps to place the proper sales protection around the commercial gas business, and it can be expected that others will follow when a better appreciation of the load is obtained.

In the past, the relationship between the gas industry and some of its commercial customers has not been of the best. In many situations the only contacts that have been made with commercial customers have been the calls of meter readers and bill collectors, which, though proper enough, are inadequate. These contacts have not been of the type which would give customers a feeling of full understanding cooperation on the part of the gas utility. This must be recognized, in considering an approach to the commercial field.

Large Potential Load Available

The gas industry is fortunate in having available in the commercial classification a large potential additional load. Much profitable business can be obtained at existing rates, and certain classes of customers represent such large potential volume that a study of further special rates justifiable for obtaining this supplementary business may be warranted. Some examples of this potential load include:

COMMERCIAL GAS REFRIGERATION: This represents one of the largest potential loads open to the industry, and already considerable progress has been made by certain utilities in getting a solid start in this new field.

TAILOR BOILERS: The tailor boilers now being fired with other fuels can be converted to gas by proper sales and servicing approach, and this load fully regained.

BEAUTY PARLORS: Improved gas-fired hair drying equipment, coupled with promotional sales activity on the

part of the utility, is needed to regain that portion of this load already lost and to insure the retention and growth of the present hair drying load.

BAKING: The specialty and "corner" bakery, in most manufactured gas territories at least, represents a large potential load that has not yet been entirely obtained, but which is a challenge to the industry from both the sales and equipment standpoints. Incidentally, the "corner" bakery offers a good example of the diversified gas applications which can be obtained in a single establishment. Such a bakery of proper size to supply a complete line of fresh baked goods would need the following gas equipment:

Bake Oven	Hot Plate
Proof Box	Refrigerator
Deep Fat Fryer	Water Heater
Space Heaters	

LAUNDRIES: Here is a field where but slight progress has been made—both through lack of a full understanding of the problem and the lack of suitable specialized equipment. This does not apply in natural gas territories where the entire central boiler load of laundries is frequently carried on gas. Some advancement is now being made in this field in certain territories and includes both American and Chinese laundries.

WATER HEATING: While gas enjoys considerable acceptance as a commercial and large-scale water-heating fuel, this market is by no means exhausted and requires further intensive development.

SPACE HEATING: All commercial customer classifications offer excellent prospects for gas space heating and substantial gains in obtaining commercial space heating loads have been made within the past few years.

Conclusion

In view of the characteristics of the commercial customer—high unit or customer consumption, high average rate, low servicing expense, excellent load factor and enormous potential load available—it must be agreed that the commercial load is a highly desirable one, and meets the needs of our industry for profitable new revenue.

It is recommended that gas utilities which have not yet done so, carefully study this field, analyze the situation as found in their respective territories and take the necessary steps to fully possess the commercial market. This will include the provision of adequate sales contact and proper appliance servicing, as well as the provision of a program for improving the quality and performance of many existing appliances. By so doing, any gas utility may insure retention of the desirable commercial load, may expand it to its practical limits, may develop it into an increasingly valuable asset to the gas industry—and may find "Acres of Diamonds" in its own backyard.

Bait Your Gas Sales Hook With Advertising

IN Harrisburg, Pa., they use commercial gas sales as bait for more commercial gas sales. When a restaurant, a hotel, a beauty shop, or a retail store puts in gas equipment, that fact is used as ammunition. The Harrisburg Gas Company doesn't forget a good commercial job as soon as the proprietor is happy and the meters are merrily turning. Take a second look at the 12½-inch newspaper advertisement reproduced herewith.

The William Penn Hotel, it seems, opened a new grill and dining room set-up and wanted the kitchen to be as modern as the gowns the ladies wore on the opening night. So it picked gas to assure speed, flexibility and economy—and onto the local gas lines went four modern heavy duty ranges, a heavy duty broiler, up-to-the-minute bake ovens, and miscellaneous coffee urns, deep fat fryers, egg boilers, oyster stewers, toasters and stew kettles. Adding it all up, and throwing in the 350-gallon automatic gas water heater which supplies the whole hotel, it made quite a nice piece of business for the gas company to get from a single customer. But that didn't end it.

Said never-satisfied George L. Cullen, Harrisburg Gas Company's sales manager, "That's fine! But it's only one customer. Other commercial establishments in Harrisburg will be easier to sell if we show them what one of the biggest hotels in town did, why it did it, and how it liked the result. Let's go." And the ad you see was run in the Harrisburg *Evening News*.

Send your orchids to The Harrisburg Gas Co. for making the most of new commercial gas jobs in selling others. But before you send them, see if the same plan wouldn't work in *your* territory.

Only the best would do...
so GAS
was selected for cooking in the
Wm. Penn Hotel
327 MARKET ST.
HEAR what the management of the Wm. Penn Hotel has to say: "We designed our new restaurant with the knowledge that to be successful we, first, must attract the public, and second, the food must be prepared so that those once attracted will be retained as customers.
"The new dining rooms are distinctively designed, smartly decorated, and air-conditioned for absolute comfort. Considerable time was spent in the choice of modern appointments to create an attractive atmosphere — a place where the public will like to meet.
"But, when it came to the choice of equipment for the all-important task of cooking the food, we didn't hesitate — GAS was specified immediately. We know from experience that its flexibility gives the perfect control of temperatures so vitally necessary in the preparation of fine, appetizing, invigorating menus: food that will bring customers back again and again. It gives the speed needed for quick orders, without sacrificing taste or quality. And, withal, an economy that by experience has been proven.
"This business of catering to the public's palates really includes four definite steps — buying, preserving, preparing and serving — all inter-dependent for success. We are confident that gas fuel and modern gas appliances will take care of the preparing step superiorly."
Close-up of battery of four heavy-duty gas ranges.
Better Food — Better Service — More Customers
The overwhelming predominance of super-excellent, automatic gas-fired equipment in hotel and institutional kitchens, both large and small, is evidence that this modern fuel is easily, speedily and accurately controlled — and is more economical than other fuels. Both predominance must be deserved.
20% Savings in Fuel Costs
Actual records of users everywhere show 20% savings in fuel costs with gas fuel and modern gas-fired cooking appliances. Investigate this modern fuel today.
Modernize YOUR HOME WITH GAS
THE HARRISBURG GAS CO.
TELEPHONE 6171

Romance in Industry . . . *Natural Gas Story Told in Advertising*

Kenneth C. Long

By KENNETH C. LONG

Vice-President and Associate General Manager, The Dayton Power & Light Co., Dayton, Ohio

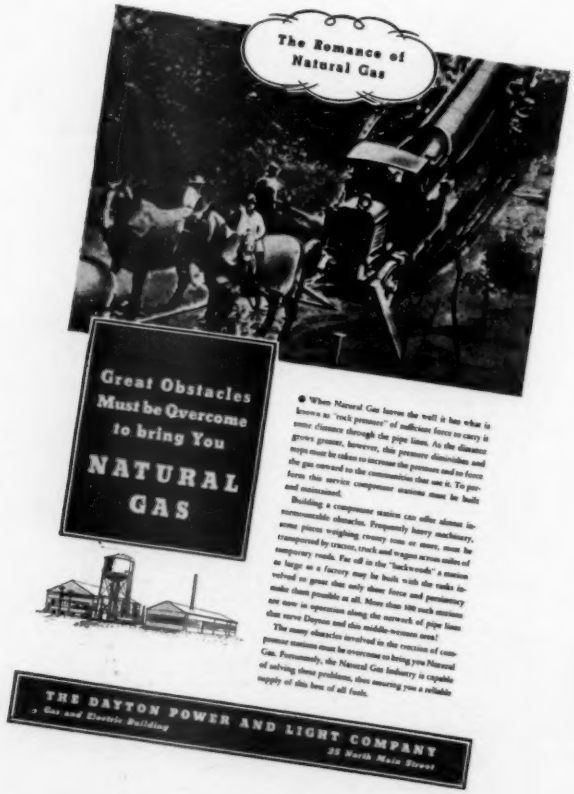
THE romance of natural gas has been, for the most part, well concealed. Almost everything about the business is underground, well covered up, and all the average customer sees is the blue flame and his monthly bill.

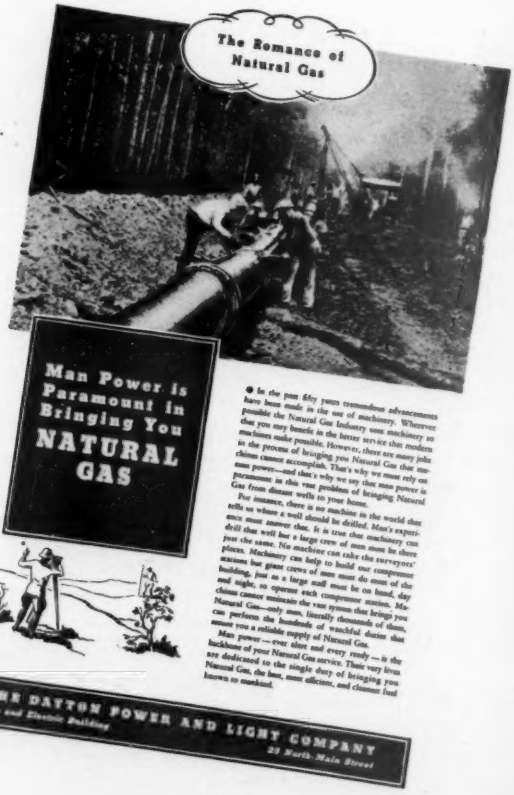
Most other industries and commercial establishments have ever before the public eye their physical property which gives a concept of the size and nature of their institution. The customer, as a result, has an immediate mental image to associate with that firm. This image is completely lacking in the gas industry. Therefore, when we attempt to direct the customer's attention toward our own business, he has no mental foundation upon which to build, and this intangibility and vagueness leads to a completely negative attitude. All he has as mental images are the flame on the range, the meter, and the monthly bill.

I have often heard members of our own industry state that the gas business lacks romance and color. I know of no better proof of the above statements than this attitude within our industry.

Perhaps the gas industry has suffered by its own comparison with the electric enthusiasts—and they are really enthusiastic, using a background of electric eyes, marvelous new lamps, radio, the exposure meter, television, wirephoto, and whatnot, to create the impression that the electric way is the modern way—it's new, different, and up-to-the-minute.

But all they're doing is broiling a steak or baking biscuits with heat that is the same as any other kind of heat. We'll have to give them credit for being able to dramatize their mysterious and attractive B.t.u.'s.


The Romance of Natural Gas
Great Obstacles Must be Overcome to bring You
NATURAL GAS
THE DAYTON POWER AND LIGHT COMPANY
Gas and Electric Building
25 North Main Street


The Romance of Natural Gas
Man Power is Paramount in Bringing You
NATURAL GAS
THE DAYTON POWER AND LIGHT COMPANY
Gas and Electric Building
25 North Main Street

We must bring out of the ground and place in the minds of our customers pictures and impressions of tangible things so that when their attention is directed to our company these images are immediately drawn upon for a concept of our business.

It seems to me that in the past institutional advertising has been written more for ourselves than for our customers. We have talked about our growth, our bigness, and our accomplishments. We must place ourselves in the customer's position. That, it seems to me, is fundamental, and has often been missed, in both the gas and electric industries. The customer is interested in himself and not in what we are doing unless we are doing it for him.

But there's romance in natural gas. Let's find it—perhaps something like this.

A tree falls to the marshy ground from which it sprang, as did millions of others before it. They lie in the ooze for a long time. Queer animals stumble into the bog and are swallowed up. Years pass. The earth's surface changes position a little. The bog is covered up. All is very quiet. Tens of thousands of years pass.

One day in the twentieth century, a man bores a hole in the ground, all the way down to the old bog. A vapor issues from the hole. He connects the hole in Texas to a pipe a thousand miles long, to his house in Ohio. With the gas he freezes ice, heats water, cooks his food, and keeps his house warm.

Putting it that way, natural gas is interesting. Maybe it wasn't trees and marshes that formed that gas. Maybe the place was under the ocean, and the gas resulted from marine animals and vegetables. That's beside the point. Today, we in the natural gas industry have over two and one-half billion dollars invested in the business of finding this gas and efficiently delivering it to seven million homes, stores, and factories as a clean, convenient, and inexpensive means of heating or cooling almost anything. Perhaps we have so completely accepted the value of that which we have to sell that we have assumed that the public also accepts it, and we have therefore concentrated our efforts simply on producing it in an efficient manner. Perhaps we've neglected to tell our story in an attractive and imaginative manner.

These were some of our thoughts when we planned a two-year institutional advertising program based on

(Continued on page 80)

What is the reasoning behind advertising which tells the story of an industry but does not attempt to sell its product? Why should time and money be spent on so-called Institutional or voice-of-business advertising when it could be spent on direct-selling copy? Is there romance and color in our industry—and should we tell about it? Mr. Long's article answers these questions, with the authority of experience which dictated the current two-year campaign of the Dayton company. It was prepared upon request after unusual interest was shown in reproductions of advertisements from the campaign which appeared in the October, 1938, MONTHLY.

The Romance of Natural Gas
NATURAL GAS
Must Not Lag on its way to Serve You
THE DAYTON POWER AND LIGHT COMPANY
Gas and Electric Building
25 North Main Street

The Romance of Natural Gas
WORK Never Ceases at NATURAL GAS WELLS
THE DAYTON POWER AND LIGHT COMPANY
Gas and Electric Building
25 North Main Street

Locating Unit Heater Thermostats

In a letter to Maurice Schwartz, air conditioning supervisor, Queens Borough Gas and Electric Company, Far Rockaway, N. Y., read before the Metropolitan Gas Heating and Air Conditioning Council in January, George E. Duane, in charge of industrial and commercial gas sales, The Dayton Power & Light Company, Dayton, Ohio, gives the following interesting information in reference to the location of unit heater thermostats.

IN regard to placement of the thermostat used to control unit heaters, at a point approximately 18 inches from the floor in an effort to counteract the cold floor condition so frequently encountered with the use of unit heaters, I wish to state that we experienced cold floors with the 5-foot thermostat level at the start of our activity four years ago, and have definitely solved cold floor conditions, except in one or two minor cases, by the placement of the thermostats in the correct location—18 inches from the floor.

In the talk I gave before the Eastern Regional Natural Gas Conference at Pittsburgh last February, I went into this subject at great length, knowing full well the possible reaction that might come from making the statement that the correct place for the thermostat in commercial establishments was 18 inches from the floor. The natural reaction to a statement of this kind is "why can't the same thing be done with a 5-foot elevation thermostat by merely setting the temperature up?" In other words, a great many of us make the error of assuming a definite relation between the 18-inch and the 5-foot thermostat, that does not exist.

Conclusions Checked

In some 15 to 20 checks we made to substantiate this statement, the condition we found with 5-foot thermostats, checking the temperatures with super-sensitive recording thermometers, one at the same elevation as the thermostat, and one at the floor, was that even though the breathing line temperatures stay on a straight line, we obtained a one degree drop at the floor line for every four-degree drop in temperature outside. This was definitely established in all of these checks. Invariably where we took the thermostat from an 18-inch elevation to the 5-foot elevation, when we went back the following day, the customer demanded that the thermostat be replaced at the 18-inch elevation.

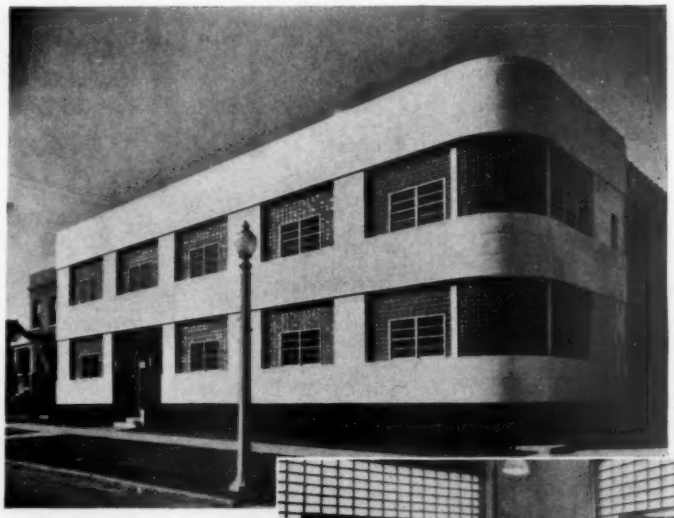
In commercial and industrial installations, it should always be borne in mind that we have either a concrete slab on cinders and gravel, or we have taken the heat out of the basement and placed it up in the space where business is done. In both cases, we have no heat under our floors. Therefore, therein lies our biggest battle—maintaining that floor temperature. We have also found that if 65° setting of the thermostat at the 18-inch level will give the customer satisfactory heating in October, that same 65° setting will give him comfort in January. True, his breathing line temperatures are going to increase, but I maintain that is exactly what the customer himself would do, so why not make it automatic?

There is, however, one point which should be borne in mind in the placement of thermostats at this elevation. If the customer sets his thermostat back 10-12° at night, and in the morning sets it up again, he will overshoot his breathing line temperature for the first one-half or three-quarters of an hour. However, after that time, his temperature will level out, and he will have as uniform temperature as is possible to obtain.

We have endeavored in our sales to sell the customer on the idea of leaving the thermostat set at the one temperature night and day. Our experience to date is that this does not cost him additional money, as we have had no complaints whatever of high gas bills on any of our unit heater installations, which number at the present time somewhere in the neighborhood of fifteen hundred. This I believe can be, partially due to the fact that commercial establishments are completely closed up at night, and is not similar in that respect at least—to residential heating.

We are using the thermostats with the heating element in them, and have found them to be the most satisfactory and carefree of any.

New Gas Research Laboratories In Ultra Modern Building



New laboratories of the American Stove Company. Inset—Gas analysis laboratory where a variety of tests are constantly being run on experimental gas appliances and parts

WITH the recent opening of a striking new home for research laboratories in St. Louis, Mo., the American Stove Company further emphasized its faith in the future of the gas range business. The ultra-modern building, with its efficient arrangement, provides an ideal place for scientific research and development of improved cooking and heating appliances. The offices are air-conditioned and have the latest in modern lighting. Glass brick is used not only for exterior walls, but for many interior partitions, providing excellent diffused light throughout the building. The building also houses the offices of Arthur Stockstrom, president, A. H. Brodbeck, in charge of designing, I. V. Brumbaugh, in charge of gas engineering research, and other officials of the company in St. Louis.

A Combination Heater . . . *Opens Vast Untapped Market for Gas*

WHILE the combination water heater described in this article was developed primarily to meet market conditions in New England, its possible application to the low cost housing field is of widespread interest. Mr. Rutherford feels that the heater would lend itself easily to incorporation in a complete unit which would supply heating, water heating and cooking service for low-cost housing projects.

To quote Mr. Rutherford: "The advantages of such a device are obvious. It would have an extremely low first cost and likewise high operating efficiency. While heating and water heating supplied by such a service would not be comparable to thermostatically controlled heating and automatic water heating, it would be considerably above the type of service with which the tenants of low cost houses previously have been satisfied. Furthermore, such a unit would place the gas industry in a unique position in the solution of this problem inasmuch as no other fuel can offer this complete solution."

R. J. Rutherford

By R. J. RUTHERFORD

Vice-President, Worcester Gas Light Company

THERE exists in many locations an appreciable market for the heating of kitchens and tenements from the kitchen which is today generally untapped for gas. New England affords a good example where this market represents as high at 53 per cent of the domestic dwellings. In every territory, undoubtedly, some of this business is available.

At present this service is supplied by either oil or coal and, never having been on gas, its potentialities go unrecognized. As an example, in one New England territory where detailed market studies have been made this field if saturated with gas equipment would more than double the present domestic revenue. This study shows that out of 47,000 dwellings, 23,500 are potential users of gas for this service at an average increased revenue of $60 per year, the present total domestic revenue being about $1,000,000 per year.

The market, however, is directly competitive on a cost basis and consequently requires rates nearly equal to competitive costs. However, these costs are such that they present to the gas company an opportunity to sell gas at a price upon which a return is possible, and at a price the consumer is already paying, hence is willing to pay. Rate designs are already in operation which permit developing this market at no loss to existing revenues.

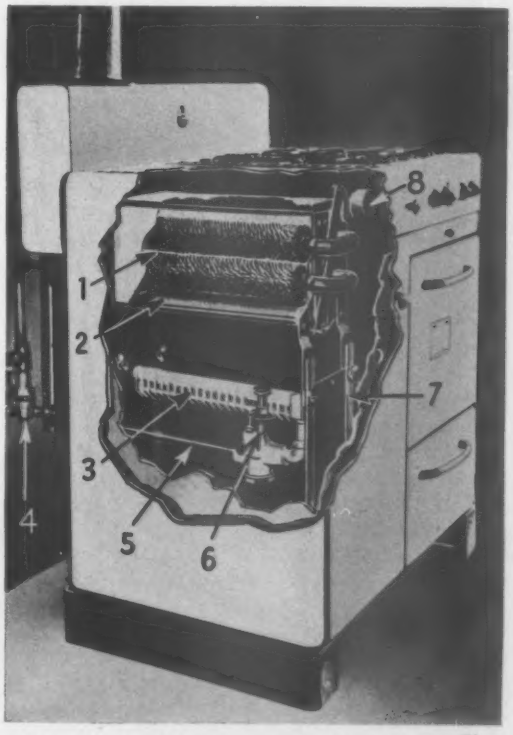
The studies referred to above further show that in order to obtain a real share in this market not only space heating must be provided but gas will have to do the cooking, baking and water heating as well if it is to replace coal or oil.

Existing gas devices are available for providing comparable service for heating and cooking operations but water heating presents a new and entirely different problem. The most satisfactory and accepted means of water heating in this market when a range oil burner is used is with a water coil around it, or, when coal is used, a water front.

Therefore, to fully develop this market a new type of gas water heating device is necessary—one that would give comparable service to the accepted competitive methods. Such function the Worcester Water Heater performs.

This unit includes a standard kitchen heating burner adapted to the dual function of space heating and water heating. Fundamentally, the unit itself also performs the functions of two accepted methods of water heating, namely, in winter, service such as is obtained from a range oil burner and coil, and in summer, service such as is obtained from a gas stack or tank heater.

An explanation can best be given by referring to the accompanying illustration. This shows the complete unit



Worcester water heater

installed in the fire pot end of a utility-type range. It could be similarly installed in the fire pot of a coal or combination type range.

Essentially, it consists of three main parts. A special Heat Exchanger (1); the Baffles (2); and Burner (3); incorporated in the installation between the lower circulating pipe and the main gas supply (5) is a water Thermostat (4) which functions only as a limit control. Also, between the water thermostat and a by-pass type room thermostat is installed a gas cock.

The equipment also includes a Safety Pilot (6). The unit is equipped with Adjustable Legs (7) for installing in varying depth fire pots.

The normal operation of the unit would be either summer or winter setting.

Summer Operation

For summer operation, the room thermostat would be set for by-pass, the valve between it and the water thermostat would be used for turning on and off the burner. The baffles would be opened by manipulating the Counterweight and Linkage (8) so that the entire flow of heat for the burner would pass up through the inside of the heat exchanger and vent under the cover, thence directly to the flue.

With this setting, the service and operation would be identical to that of the conventional gas tank water heater, but at higher efficiency. The water thermostat would operate in the event that the burner were not turned off, an added safety feature not provided on the ordinary tank heater.

For winter operation, the room thermostat is the master control. The cock between it and the water thermostat is left open and the baffles of the heat exchanger are closed. Thus, the heat from the burner would be deflected by the baffles to the surfaces of the fire pot and external surface of the heat exchanger.

With this setting, service and operation would be identical to that of the oil burner coil water heater. The new unit is so designed that with this setting the water thermostat would never operate because the temperature of the water, even with continuous operation of the burner, would not reach the temperature setting of the water thermostat. Thus, the room thermostat would always be in control when space heating is desired.

While these are the normal operations, obviously the flexibility of the unit is such that it can easily meet abnormal requirements for hot water any time in the year. It is only necessary to open the baffles and the fast recovery of the tank heater is available.

This unit incorporates the best features of the two existing and accepted methods of heating water in this market but does not include the objectionable ones. For example, the main objection to the oil burner coil method is that in summer, to supply hot water, it is necessary to heat up the already hot kitchen. With the Worcester Water Heater on summer setting, the water is heated with no sensible room heating due to the baffles and heat exchanger design.

The Worcester Water Heater is new and unique, it provides the missing answer to a complete solution for obtaining this vast new and profitable market of kitchen and tenement heating.

Head office building of the Southern California Gas Co. at 810 South Flower Street, Los Angeles, showing the 30 x 107 foot outdoor sign location on the north wall of the building, which is carrying powerful gas messages to the 82,200 people who, it is estimated, cross this intersection during daylight hours. Copy has been changed at six-month intervals, the present sign, which has superseded the copy seen in the picture, telling the story of Certified Performaance

British To Celebrate Murdoch Centenary

THE council of The Institution of Gas Engineers has decided to celebrate this year the Centenary of William Murdoch (1754-1839), the father of the British gas industry. The occasion for so doing will be the 76th annual general meeting of the Institution, to be held in London June 6-9, at which a special Murdoch Centenary Lecture will be delivered.

The president and council of the Institution have extended a cordial invitation to the president and members of the American Gas Association to be present.

Wants Electric Range Converted to Gas

Excerpt of letter received by a gas company from one of its customers

"Will you be so kind as to let me know if an electric range can be converted into a gas range? I have a four-burner electric range and am very much dissatisfied with it. An early reply will be appreciated."

Gas in Germany

THE extent of the development of the German gas industry, says the foreword of the *1939 Year Book of the Gas and Water Industries*, lies not so much in increases of output and consumption but rather in nature and extent of the problems in course of solution and the tasks to be accomplished. These two joint industries have become, it says, essential pillars in the edifice of the four-year plan.

Notable contributions have been made to national fuel economics in the production of motor benzole and the adaptation of gas fuel for motive purposes and research is being carried out to determine how far processes like hydrogenation, benzene synthesis, etc., can be incorporated with or carried on in conjunction with ordinary gas works practice.

An innovation is the insertion of statistics covering the industry as a whole, including both gas works and coke ovens. In 1937, the coal carbonized at gas works amounted to 8,200,000 tons, and the output of gas to 126,073 million cu.ft., to which should be added nearly 30,000 million cu.ft., of coke oven gas taken in bulk from the coke ovens, the aggregate being roughly 10 per cent increase on the corresponding figure for the previous year. Benzole production also increased from 44,800 to 52,000 tons during the year.

All the other features of the Year Book appear again this year, details being given for Greater Germany and 18 other European countries, while the list of towns and places in Germany supplied with gas, increased this year by the addition of those in Austria and Sudetenland, has risen to a total of about 2,850.

There's News Aplenty in Gas and Gas Appliances

As part of the publicity service supplementing the gas industry's national advertising program, there is being issued a collection of stories designed for publication in local newspapers which comment on the many striking developments in the latest models of gas appliances. This material is ideal for use in special newspaper supplements devoted to appliance campaigns and will be welcomed by the home page editors of newspapers. Two sample stories are printed below. If you have not previously received a set, address your inquiry to Association headquarters.

First Oven Heat Regulator on Gas Range 25 Years Ago

HAPPENSTANCE and good intentions have produced more inventions than necessity to which ordinarily they are attributed. So it was with the first oven heat control on domestic gas ranges, now a convenience a full quarter of a century old.

More than three decades ago, B. E. Meacham, superintendent, National Stove Division, American Stove Company—then a farm boy in Ohio—was impressed by his mother's distress over uncertain and frequently disastrous baking results.

One distracting day when the bread burned, the youth made a promise to himself that sometime he would invent a device to eliminate all such problems in baking.

Several years passed. Young Meacham was affiliated with a manufacturer of gas ranges. One day, idly picking up a thermostat invented for water heating, his memory of that boyish promise to control the oven temperature of ranges was revived. A thermostat—why, certainly that was the answer!

This was not a new gadget; the first recognized patent had been taken out in 1831 by Dr. Andrew Ure, an Englishman.

However, to evolve a heat control for a range was not as simple as it appeared; a much wider scale of temperatures was required; the gadget must operate as accurately as possible because baking was a delicate cooking operation; and it must be fairly inexpensive to produce.

After several years of experimentation, a working model was contrived and the first tests began. So perfectly did the regulator function, Meacham's engineering associates thought surely something must be wrong—experience having shown that success couldn't be expected to follow a first venture.

The next step was to determine how it would work day after day in a housewife's kitchen. For practical endurance tests, Meacham installed a gas range with a new heat control in his home kitchen for his wife to try.

Hence, it was a homemaker who put the new thermostat through the acid tests of time; it was she who tabulated her results—the temperatures best suited to various baked foods, and the cooking periods each should have. All went progressively well.

Early in the Spring of 1915, the first Direct Action gas ranges equipped with these practical oven heat controls, or thermostats, or regulators as they are variously termed, were placed on the market.

Thus began the dawn of the new day in home baking—just one of the many innovations originated in the gas industry.

Hollywood Notables Demand Gas Kitchens

CONTRARY to the general opinion that the scintillating celebrities of Hollywood spend widely but seldom wisely, the recipients of large salary checks exact nothing less than quality when it's their turn to buy. This holds true particularly in the matter of their homes.

And as all the world knows, a Hollywood man's home becomes his castle. Quality to him means the finest in service that money can buy, albeit the purchase price is not always the highest in the market.

Maneuver (if you could) a tour through homes of the famous in California's screen and radio colonies and you'd see some of the smartest gas kitchens. For Hollywood palates are pleased by food cooked and chilled with the aid of gas fuel, both at home and in the great studios.

Barge out into the kitchens of the Bob Burns and Fred MacMurray homes on the Brentwood acres and you'd find cooks busy with modern gas ranges and refrigerators because they are quick, efficient, and dependable, come floods and high water.

In the beautiful new home of Kenny Baker just off Coldwater Canyon, a fashionable residential district, the most modern gas equipment for cooking, water heating, refrigeration and house heating was specified.

Jolly Don Wilson, whose rich laugh ripples 'round the world via the air lanes, demanded a gas-equipped kitchen in his new home in the San Fernando Valley.

Darryl Zanuck, executive head of 20th Century Fox and William Goetz, executive producer, have installed gas ranges in the large kitchens of their beach cottages.

The list of gas kitchens is long and the owners equally famous.

Commercial Cooking in Harrisburg 99% Gas

George L. Cullen

IN the first ten months of 1939, gas commercial installations in the territory of The Harrisburg Gas Co., Harrisburg, Pa., added approximately 8,500,000 cubic feet to the company's annual load. This exceptional record in the sale of heavy-duty gas burning equipment is attributed by George L. Cullen, sales manager, to a number of factors.

These include an attractive rate, liberal sales polices, long term payments, trial installations, 24-hour free service—whether the company installs the appliance or not—and cooperation with the equipment manufacturers. Ninety-nine per cent of the commercial cooking in Harrisburg is done with gas. This includes hotels, restaurants, institutions, schools, clubs, churches, etc.

"In securing and retaining this load," Mr. Cullen says, "we endeavor to secure the friendship of cooks, chefs, managers and proprietors, by constant personal contact and by the distribution of literature such as 'Cooking for Profit' and 'Baking for Profit.' Special servicemen continually inspect and adjust commercial gas appliances.

"Our proposals for new installations are submitted in blue print form with bound specifications. In making recommendations for new equipment we consider our customers' needs, studying menus, the variation of foods served, the number of meals, the class of people served, the popular foods, kitchen manpower, cleanliness and all the other items which affect the commercial cooking business.

"After a new installation is completed we tell about it in the newspapers, showing photographs of the installations and the personnel of the establishments, and stressing the comments of the cooks and emphasizing the savings effected."

Safety Code Revised

A REVISED edition of American Standard Safety Code for the Protection of Heads, Eyes, and Respiratory Organs, National Bureau of Standards Handbook H24, has just been issued. The first edition of this code was completed in the fall of 1920 and issued early in 1921. The second was issued in 1922 after revision by a Sectional Committee organized under the auspices and in compliance with the rules of procedure of the American Standards Association. The present edition has been revised by a similar procedure. Copies of this code may be secured from the Government Printing Office, Washington, D. C., Superintendent of Documents, at fifteen cents each.

Mechanical-filter respirators, hose masks, oxygen breathing apparatus, gas masks as protection against irrespirable gases and vapors are discussed with respect to their use and performance specifications, and tests.

The American Gas Association was represented on the Sectional Committee by James M. Orts of the Public Service Electric & Gas Company of Newark, N. J.

Do you know that gas, the modern fuel, has played its part in practically everything you use or touch? There are, in all, some 20,000 separate uses for gas.

A Prize Package

WHEN you put a good product in a smart-looking package you have a worthwhile combination. That isn't exactly what the American Gas Association did with its engineering handbook for house heating salesmen, "Comfort Heating," but it's close enough for comment. The excellence of its content may be attested to by the immediate sale of several thousand copies. As to its appearance, you are referred to the Fourth Annual Printing Exhibition, held in November at the Hotel Astor, New York City, where it walked off with a book-binding prize. The printer was very pleased.

Today's Gas Ranges Are News

WHAT are the leading national women's magazines saying about the latest models of gas ranges? Major T. J. Strickler, vice-president of the American Gas Association and chairman of the Committee To Conduct National Advertising, answers as follows:

The February issue of *Good Housekeeping* devotes a column of text on page 161 explaining what the symbol "CP" means on a gas range. The February issue of the *Ladies' Home Journal*, on page 41, has two illustrations of up-to-date gas ranges and accompanying text explaining some of the latest innovations to be found on these ranges.

McCall's Magazine for March will contain a two-page illustrated spread entitled, "Three Meals A Day" with the subheading reading "New recipes for delicious food that is economical, easy to prepare, and cooked to perfection on the new gas ranges."

Also in the March issue of the *Woman's Home Companion*, a one-page illustrated article with a two-column carry-over will be devoted to an interesting article, "Dinner Under Control," which will play up the features of the CP range.

The combined circulation of these magazines is 11,100,000 copies.

Seeing Is Believing—and Selling, Too

HOW the novel use of color photography brought additional sales, is an interesting story told by the West Texas Gas Company, Plainview, Texas. Its enterprising district manager, Marion F. Peters, has combined his knowledge of amateur photography with the present day current interest in this activity, to arouse consumer interest in the company's products. The result was the installation of eight floor furnaces in homes pictures were made of, and to climax the last installation 4 gas furnaces with thermostats were sold.

And this is how it was done:

During the summer months when the flowers and shrubbery were in full bloom, Mr. Peters made a number of natural color pictures of customer's homes where it was known that floor furnaces were not in use and where the range and water heaters were somewhat obsolete. These pictures, which were shot on Dufaycolor film, were then sent to the film people, who rated the exposures a Gold Star, the highest rating a Dufaycolor transparency can merit.

Mr. Peters then attached a picture of the customer's home to a card on which was the following message: "In natural color your home rates a Gold Star by Dufaycolor. We should like to discuss another kind of star for your comfort, convenience and health. This card is your credit if used during July and August in the amount of $5.00 on the purchase of a water heater, floor furnace or gas range.—West Texas Gas Company."

Out of the 36 pictures (1 roll of film) 65 per cent responded immediately. Several of the customers took the pictures and had the film mounted so it could be viewed through a regular projector along with other color mountings. Two had natural color enlargements made because of the beauty of their home in natural color.

According to Mr. Peters, "We could not claim all credit for sales of appliances and resultant load building activity, to the picture stunt alone because it was backed up with honest sales effort on the part of our regular force of company employees who contact the public but it did have a pleasant effect and proved an excellent medium for contact with the consumer."

However, at the annual meeting of employees held recently in Lubbock, Texas, the idea was recognized by the new business manager and other company executives as being the outstanding sales idea of the year.

Personal AND OTHERWISE

Executive Board Elects New Directors

Clifford E. Paige

H. L. Farrar

AS this issue of the A. G. A. MONTHLY goes to press, Conrad N. Lauer, president of the American Gas Association, has announced the election of two new members to the Executive Board of the Association. Those elected are Clifford E. Paige, president of The Brooklyn Union Gas Company, Brooklyn, N. Y., and H. L. Farrar, president and general manager of the Coast Counties Gas and Electric Company, San Francisco, Calif. The election took place at a meeting of the board on January 25 at Association headquarters, New York City.

Mr. Paige is no newcomer to the Executive Board, having served a number of years as a director prior to October, 1934. He is a past president of both the American Gas Association and the New England Gas Association and one of the most active leaders of the gas industry. He is present chairman of the Association's Finance and Control Committee and vice-chairman of the Special Committee on Association Activities.

While Mr. Farrar has been prominently identified with affairs of the Pacific Coast Gas Association for a number of years, this will be his first term as a director of the American Gas Association. He is now president of the Pacific Coast Gas Association. He is also chairman of the Program Committee for the A. G. A. Executive Conference.

Morrell Named Treasurer of Niagara Hudson

JAMES H. MORRELL was elected treasurer of Niagara Hudson Power Corporation at a recent meeting of the board of directors. Mr. Morrell, who was assistant controller, succeeds W. Paxton Little who has retired as treasurer. The board at the same meeting elected Pierre L. Touchette assistant controller. Mr. Touchette also continues as assistant treasurer.

Mr. Morrell's employment with the associated companies of the Niagara Hudson System began in August, 1916, as an office boy for The Niagara Falls Power Company. He was advanced rapidly and in September, 1925, was made chief accountant of the company and its subsidiaries. In March, 1927, Mr. Morrell was transferred to Buffalo as chief accountant of Buffalo, Niagara and Eastern Power Corporation, a position which he held until May 17, 1930. At that time he became chief accountant of Niagara Hudson Power Corporation in New York City, and was elected assistant controller of the corporation, April 24, 1935.

Utility Elects First Woman Director

Mrs. K. B. Norton

TWO new trustees were elected by Consolidated Edison Company of New York, Inc., December 27 at the regular monthly meeting of the board—Mrs. Kenneth B. Norton, of Bronxville, New York, who is the first woman to serve on the directorate of a major utility company in the country, and Neal Dow Becker, president of the Intertype Corporation, Brooklyn, New York.

Neal D. Becker

Mrs. Norton and Mr. Becker fill posts left vacant by the resignations of Lewis Gawtry, president of the Bank for Savings, and Louis M. Greer. Mr. Gawtry had served as a trustee of the company since 1923 and Mr. Greer since 1907.

Floyd L. Carlisle, chairman of the board of Consolidated Edison, said he was particularly pleased to welcome an outstanding woman as a member of the board of trustees. He said that Mrs. Norton had had wide experience in various women's organizations and had served on the board of directors of the Westchester Lighting Company, part of Consolidated Edison System, for the past year and a half. He believed that her election could be construed as recognition of the growing importance of the woman's viewpoint in the public utility business. He pointed out that a considerable percentage of the system's employees were women and that Mrs. Norton's counsel would be helpful in matters affecting them.

Appointed Vice-Chairman Advertising Committee

George F. Mitchell

HAVING recently been appointed a member of the committee in charge of the gas industry's national advertising program, George F. Mitchell, of Chicago, president of The Peoples Gas Light & Coke Company, has been elected vice-chairman of the committee. The national advertising program is sponsored by more than 700 gas companies in the United States and is cleared through the American Gas Association of New York, of which Mr. Mitchell is a director.

Bay Elected President of Northern Natural

Burt R. Bay

RETIREMENT of Frank H. Brooks, president of Northern Natural Gas Co., Omaha, Neb., January 1, and election of Burt R. Bay, executive vice-president, as president, was recently announced. Mr. Brooks' retirement is in conformity with the company's age limit and income retirement plan. His resignation ends nearly 45 years in public utility service.

Under Mr. Brooks' direction Northern Natural has developed into a major natural gas system, serving more than 130 cities and towns in Kansas, Iowa, Nebraska, South Dakota, and Minnesota. It also operates the Peoples Natural Gas Co. serving cities and towns in Nebraska, South Dakota, and Iowa; the Minnesota Northern Natural Gas Co., operating in Minnesota; the Argus Pipe Line Co. and the Garden City Gas Co., in Kansas. General offices are maintained in Omaha.

Pacific Gas Radiator Head Dies

A. J. HARTFIELD, 63, president and founder of the Pacific Gas Radiator Co., 1740 W. Washington Blvd., Los Angeles, Calif., was drowned January 2 in Big Bear Lake when the ice broke beneath him while skating. Mr. Hartfield was the first manufacturer of gas heating appliances on the Pacific Coast.

Born in Germany, Mr. Hartfield came to this country at the age of five, living in Detroit for many years. After considerable experience and training in the hardware business, he began manufacturing his own sheet metal and coal burning stoves, and later developed a gas burner to save more heat. In 1913 he founded the Pacific Gas Radiator Co., building his own factory and foundry in Huntington Park in 1918 for the manufacture of gas steam radiators.

Mr. Hartfield was a member of the American Gas Association, the Pacific Coast Gas Association, and was prominent in civic activities in Huntington Park.

Last year Mr. Hartfield inaugurated the policy of dividing the company's profits among all members of the Pacific Gas Radiator organization.

Natural Gas Industry Leader Is Dead

Samuel W. Meals

SAMUEL W. MEALS, president of the Carnegie Natural Gas Company and the Apollo Gas Company with headquarters in Pittsburgh, Pa., and one of the natural gas industry's most beloved figures, died January 4. He had been president of these companies since 1921 and had spent a fruitful lifetime in the oil and gas business.

Born in Clarion County, Pennsylvania, in 1869, ten years after the discovery of oil at Titusville, Mr. Meals was educated in the public schools and attended Callensburg Academy and Clarion State Normal School, during which time he taught school. In 1889 he started in the oil and gas business and never left it until the time of his death.

In 1892, Mr. Meals started to work for the South Penn Oil Company, and six years later he was made superintendent at Waynesburg, Pa. He was engaged in well contracting for several years at Waynesburg, following which, from 1905 to 1917, he was superintendent in charge of the West Virginia properties of the Carnegie Natural Gas Co. with headquarters in Moundsville, W. Va. In 1917, he was appointed superintendent of all properties with headquarters in Pittsburgh, and from 1919 to 1921, he was vice-president and general manager.

A wholehearted supporter of Association activities, he was a past chairman, 1928-1929, of the Natural Gas Department of the American Gas Association, alternate delegate for the Association in the United States Chamber of Commerce, and member of the Natural Gas Supply Men's Fund Committee since 1929. He was a past president and present director of the Pennsylvania Natural Gas Men's Association.

Mr. Meals was also a member of the American Petroleum Institute, American Iron and Steel Institute, Pittsburgh Chamber of Commerce, Pittsburgh Athletic Association, Sigma Gamma Epsilon Fraternity, and other organizations.

Benjamin Whiteley Dies

BENJAMIN WHITELEY, formerly vice-president and treasurer of the Consolidated Gas Company, now Consolidated Edison Co. of New York, Inc., is dead. Mr. Whiteley, who was a native of Baltimore, was 78 years of age.

In 1899, Mr. Whiteley became a director of the United Electric Light & Power Co., part of the Consolidated system, and in 1901 was appointed treasurer. Later he become vice-president of United. In 1900 he was appointed assistant comptroller of Consolidated Gas, of which he was named treasurer in 1920 and vice-president and treasurer seven years later. He retired in 1929, returning to Baltimore to live.

Edwin W. Ehmann Dies

E. W. Ehmann

EDWIN W. EHMANN, an official of the Philadelphia Electric Company, and a past president of the Pennsylvania Gas Association, died suddenly in Philadelphia on January 6.

Mr. Ehmann was manager of the Main Line Division of the Philadelphia Electric Company, with offices in Ardmore. He was born in Schuylkill Haven, Pa., on March 22, 1887. Following his graduation from Lehigh University as an electrical engineer in 1910, he entered the employ of The Philadelphia Gas Works Company as a cadet engineer.

Prior to his connection with the Philadelphia Electric Company, as superintendent of the electrical department of the Schuylkill and Main Line Divisions, he was an engineer with the Fulton County Gas and Electric Company, Gloversville, N. Y.

His wife and two sons survive.

Gas is today the principal fuel for cooking purposes. It is estimated that out of the 30 million families in the United States, 16 million, or more than half of them, cook with gas.

· · · BOOK REVIEWS · · ·

Theory of Industrial Gas Heating. Second Edition, by Peter Lloyd. Watson House. Gas Light and Coke Co., London.

Although published as a second edition of a work originally printed in 1933, this book is entitled to consideration as a new publication. New chapters have been introduced dealing with the behavior of flames, and the section on heat transmission has been extended considerably.

The new edition of the Theory of Industrial Gas Heating would be useful to any industrial gas engineer, but would be particularly valuable for the student or the research worker. The general theory of combustion and the principles of burner design and furnace design are covered from the theoretical angle. Many useful equations have been brought together to facilitate the computations required in furnace and burner designs.

The brevity of the book is, at the same time, its useful and its disadvantageous feature. The subject matter that has to be covered is so broad that the attempt to condense it has made it necessary to omit many useful and necessary data. For example, the book does not indicate how the application of burners to furnaces is to be carried out nor does it assist in the problem of the selection of the most suitable burner equipment for specific purposes. On the other hand, this omission is not too important because the industrial salesman generally has the assistance of the furnace builders and manufacturers in working out a specific problem.

The methods of computation to check performance and design are fully covered, in condensed form, in the new book. From the American eyes, there is a confusing feature in the frequent use of both Centigrade and Fahrenheit temperatures. The author mentions the reason for this, stating that "the choice of temperature scale has been dictated by the conventions accepted in the British industries" with which the book is concerned.

Practically in every chapter, material has been brought up to date, and many references of recent origin draw attention to many valuable sources of additional information if any particular subject is to be pursued further.

Mr. Lloyd is to be congratulated on the expansion of his first book into the present,

splendid contribution to the industrial gas literature.

Theory of Industrial Gas Heating is 5" x 8½", 171 pages, with many charts and tables. Price 7/6. Published by Walter King, Ltd., 11 Bolt Court, Fleet Street, London, E.C. 4, England.

—C. G. S.

Gas Works Effluents and Ammonia, by Arthur Key, D.Sc., Ph.D. (Research Chemist, The Institution of Gas Engineers).

About twelve years ago the Institution of Gas Engineers, its attention called to the serious difficulty of the disposal of gas works liquor effluent, appointed a special committee eventually known as the Liquor Effluents Subcommittee. Funds were contributed from various sources and entirely apart from numerous contributions in time, facilities, and actual expenditure by others, there has been a recorded expenditure on this work of approximately $65,000. Extensive laboratory and field investigations were made at numerous gas works and sewage plants.

This report is, as the subcommittee states, "a comprehensive survey of the present state of knowledge of the whole subject . . . . presented in the confident hope that the information . . . . would be of permanent value to members of the Institution of Gas Engineers and others interested in the subject or confronted with problems arising in connection therewith." The foregoing remarks indicate some reasons why no review can do justice to such a valuable compilation of both method and source material including "literature" references as well as analytical methods.

As is generally well known the principal process for gas making employed by the members of the Institution of Gas Engineers is that of coal carbonization; consequently the present work is largely concerned with the ultimate disposal of ammoniacal liquor.

The recovery of ammonia from ammoniacal liquor is important and so too is the composition and treatment of town sewage because of the effect of gas works liquors on the latter.

That some of the problems encountered by our British confrères are not substantially different from our own is indicated in the chapter dealing with other methods of disposal of gas works waste liquors where it is stated that direct discharge to river, sea or into the ground, is not satisfactory although some may have adopted them for long periods without experiencing undue trouble. With regard to discharge into a hole in the ground, the principal danger to be apprehended is the possible pollution of an underground water supply or some stream.

As a fertilizer the ammonia was found valuable as ammonia sulphate but the economics of the situation were such that in 1932 the competition of synthetic ammonia reduced the price to such an extent that the production of sulphate did not pay.

This work should find its place in the library of every operating man and all interested in waste disposal and possible stream pollution.

—A. G. K.

Members of the Refrigeration Committee view a model of "The Flying Cloud," famous American clipper ship, which is to be this year's trophy in the national sales contest beginning March 1. In the picture are, left to right, seated: J. W. West, Jr., H. C. Porter, R. J. Rutherford, chairman, Louis Ruthenburg, A. J. Maloney. Standing: E. G. Peabody, E. E. Linburg, O. J. Haagen, H. S. Boyle, H. D. Valentine, J. A. Sackett, E. J. Boyer, F. E. Sellman

"Man-the-Sales" Refrigerator Campaign Launched

PLANS for the 1939 Spring and Summer gas refrigerator selling campaign to be conducted by the A. G. A. Refrigeration Committee provide for cash awards amounting to $30,000 for the hundreds of utilities and the thousands of sales employees of such companies who will participate in the drive. The campaign will be conducted on an even larger scale than those of previous years.

The 1939 campaign, which will continue throughout March, April, May, June and July, will be called the "Man-the-Sales" contest, and the trophy will be a model of the American clipper ship, *The Flying Cloud,* famous for its speedy voyages in the clipper ship era of the last century.

As in other years, the 1939 gas refrigerator selling campaign will be conducted by the Refrigeration Committee and sponsored by Servel, Inc., through the Association of Gas Appliance and Equipment Manufacturers. The awards will be granted for record sales of Servel Electrolux refrigerators. The plans for the campaign were adopted at a meeting held January 12.

The objectives of the campaign are: first, the replacing of outmoded ice-boxes, the national average of which is estimated to be one in every other American home; second, the placing of gas refrigerators in the new apartments and new homes throughout the country; and third, the most important market of all, placing gas refrigerators in homes where mechanical refrigerators have become obsolete.

The trophy was chosen as a symbol of successful salesmanship, as it was the feeling of the committee that these are times when salesmen could not do better than emulate the spirit of those men who "manned the sails" of the ships of the clipper era. The theme of the campaign was created and developed by H. S. Boyle, promotion manager of Servel, Inc.

Members of the 1939 Refrigeration Committee comprise:

R. J. Rutherford, vice-president of the Worcester (Mass.) Gas Light Co., chairman; H. R. Sterrett, president, New Haven (Conn.) Gas Light Co., consulting chairman; O. J. Haagen, Ohio Fuel Gas Co., Columbus, Ohio; F. E. Sellman, of New York, representing the Association of Gas Appliance and Equipment Manufacturers; B. T. Franck, Michigan Consolidated Gas Co., Grand Rapids, Mich.; E. E. Linburg, Metropolitan Edison Co., Easton, Pa.; J. A. Sackett, Kings County Lighting Co., Brooklyn, N. Y.; J. W. Lea, Atlanta (Ga.) Gas Light Co.; H. C. Porter, Kansas City (Mo.) Gas Co.; George Stang, Brooklyn (N. Y.) Borough Gas Co.; H. D. Valentine, The People's Gas Light and Coke Co., Chicago, Ill.; E. J. Boyer, Minneapolis (Minn.) Gas Light Co.; A. J. Maloney, Washington (D. C.) Gas Light Co.; E. G. Peabody, Citizens Gas and Coke Utility, Indianapolis, Ind.; Mr. Boyle, representing Servel, Inc.; W. M. Jacobs, Southern California Gas Co., Los Angeles, Calif., and J. W. West, Jr., secretary of the committee.

Place These on Your Blacklist

- Illustrations showing a person squatting or doing the bends while using the gas range oven.
- Gas "Hot" Water Heater.
- "Artificial" gas.

(If you can think of others, please send them to the Editor.)

Empire State Sales Managers To Meet

A PROGRAM of interest to gas sales managers has been arranged for a meeting February 24 at the Belmont-Plaza Hotel, New York City, sponsored by the Empire State Gas and Electric Association.

Chairman Walter G. McKie of Rochester has arranged a program of timely subjects for discussion. Irving K. Peck, vice-president of the Association, will speak on some of the problems before the gas industry. Four symposiums have been arranged under the heading of: Certified Performance Range, House Heating, Water Heating and Refrigeration.

Among those who will act as discussion leaders are—W. J. Schmidt, Long Island Lighting Co., Herbert G. Schaul, Westchester Lighting Company, R. E. Williams, Binghamton Gas Works, and R. A. Lauder, Consolidated Edison Co. of N. Y. Inc.

Sessions will open at 9:30 A.M. and last throughout the day.

Mid-West Gas Association

THE thirty-fourth annual spring convention of the Mid-West Gas Association will be held April 10-12 at the Fort Des Moines Hotel, Des Moines, Iowa. S. D. Whiteman, president of the Association, will preside over the meetings. The first vice-president, F. J. Gunther, is to be in charge of the program, while the committee in charge of local arrangements will be headed by J. T. Schilling.

On Tuesday evening, April 11, a banquet and entertainment will be held. Hotel arrangements should be made direct with the manager of the Fort Des Moines Hotel.

Gas Filling Station

THE first gas filling station for automobiles operating by gas instead of petrol has been built at Moscow. Several experimental lorries, which work on gas, are already plying the Moscow streets and a new batch will shortly be turned out by the Institute of Research in Autotraction. The new gas station gets its supply direct from the Moscow Gas Works, with which it is connected by pipe line.—*National Gas Bulletin,* December, 1938.

New York Association Elects Officers

A LINCOLN BUSH, president of Belmont Electric Company, Inc., was re-elected president of the Electrical and Gas Association of New York, Inc., at its annual meeting held at its Institute Headquarters in Grand Central Palace, January 18.

Other officers elected by the Association were: E. F. Jeffe, vice-president, Consolidated Edison Company of New York, Inc., first vice-president; J. H. McKenna, Eastern sales manager, A. J. Lindemann & Hoverson Company, second vice-president; Hugh Cuthrell, vice-president, The Brooklyn Union Gas Company, third vice-president; David S. Youngholm, vice-president, Westinghouse Electric and Manufacturing Company, fourth vice-president; P. Schuyler Van Bloem, president, Viking Lights, Inc., treasurer; S. J. O'Brien, president, S. J. O'Brien Sales Corporation, secretary; H. C. Calahan, district manager, General Electric Supply Corporation, assistant secretary.

CONVENTION CALENDAR

FEBRUARY

Feb. 9-11 **A. G. A. Mid-West Regional Gas Sales Conference**
Stevens Hotel, Chicago, Ill.

16-17 **New England Gas Association** Annual Conference, Hotel Statler, Boston, Mass.

24 **Empire State Gas & Electric Association**—Gas Sales Managers
New York, N. Y.

MARCH

Mar. 2-3 **A. G. A. Eastern Natural Gas Regional Sales Conference**
Roosevelt Hotel, Pittsburgh, Pa.

13-14 **Wisconsin Utilities Association**—Gas Division
Pfister Hotel, Milwaukee, Wis.

19-24 **Southern Gas Association**—A. G. A. Southern-Southwestern Regional Gas Sales Conference
SS Rotterdam

20-21 **Oklahoma Utilities Association**
Tulsa, Okla.

27-28 **A. G. A. Industrial Gas Sales Conference**
Hotel Statler, Cleveland, Ohio

APRIL

Apr. 3-4 **Oklahoma Utilities Association**
Hotel Tulsa, Tulsa, Okla.

Apr. 10-12 **Mid-West Gas Association**
Fort Des Moines Hotel, Des Moines, Iowa

12-14 **Missouri Association of Public Utilities**
Muehlebach Hotel, Kansas City, Mo.

17-19 **American Gas Association Distribution Conference**—Technical Section
Palmer House, Chicago, Ill.

20-22 **A. G. A. Accounting Conference**
White Sulphur Springs, W. Va.

22-25 **British Commercial Gas Association**—Annual Conference
Brighton, England

MAY

May 1-4 **U. S. Chamber of Commerce**
Washington, D. C.

2-4 **Pennsylvania Gas Association**
Lodge of Sky Top Club, Sky Top, Pa.

8-11 **A. G. A. Natural Gas Section,** Annual Convention,
Mayo Hotel, Tulsa, Okla.

8-12 **National Fire Protection Association**
Chicago, Ill.

22-24 **A. G. A. Joint Production and Chemical Conference**—Technical Section
Rochester, N. Y.

24-26 **Association of Gas Appliance and Equipment Manufacturers**
Roosevelt Hotel, New York, N. Y.

JUNE

June 5-9 **Edison Electric Institute**
Waldorf Astoria Hotel, New York, N. Y.

6-7 **Canadian Gas Association**
Hotel Connaught, Hamilton, Ontario

6-9 **The Institution of Gas Engineers,** Annual Meeting
London, England

9 **Empire State Gas & Electric Association**—Gas Operating Group
Park Central Hotel, New York, N. Y.

18-22 **Public Utility Advertising Association,** Annual Convention
New York, N. Y.

AUGUST

Wk. 13 **American Transit Assn.,** Annual Convention, San Francisco and Los Angeles, Calif.

Aug. 23-25 **National Association of Railroad and Utilities Commissioners**
Seattle, Wash.

SEPTEMBER

Sept. 5-7 **Pacific Coast Gas Association**
Fairmont Hotel, San Francisco, Calif.

9 **Gas Industry Day**—Golden Gate Exposition

OCTOBER

Oct. 9 **Gas Industry Day**—New York World's Fair

9-12 **American Gas Association Annual Convention**
New York, N. Y.

Wk. 23 **National Metal Congress and Exposition***
Chicago, Ill.

* Includes exhibit sponsored by A. G. A. Industrial Gas Section.

Accounting SECTION

H. A. EHRMANN, *Chairman*
F. B. FLAHIVE, *Vice-Chairman*
H. W. HARTMAN, *Secretary*

A Flexible Customer's Record File Brings Improved Service

By CHARLES SCOTT

The Consumers' Gas Company of Toronto, Toronto, Ont.

THE ever-changing complexities of our business, due to the institution of new policies and practices from time to time, occasion the need for revision and expansion. No matter how carefully one may plan a system or routine, or how satisfying may be its results, the demands of our business create a condition which inevitably brings about a change.

Our Customer's Record File, or Clearing File, as it is hereafter called, originally functioned to record the service and meter work. It has since branched its activities to embrace almost every section of our business.

To accomplish the best results we must bear in mind three essential facts. Primarily the file should be centrally located and conveniently accessible. It also should be flexible in control. There should be a continuity of records both satisfying and reliable.

Equipment

The cards used are 4" x 6" in size (Exhibit 1), and provide spaces on which the various records are posted. A clearing file card is originated on receipt of a service pipe application. From this point onward every transaction, whether meter or appliance installation work, is registered on the card. The information thus provided consists of a record of the company's physical property as well as the transactions with the consumer. Provision is made on each card for the recording of four consumers at any one address. The service or street connection, the meter size and company number, the consumer's name, address and floor or apartment designation, with the application and completion date of each transaction registered on the card, form the basis of these records.

Information on house heating systems, service work, lamp maintenance, high pressure service connections, non-payment registrations, locked meters, collection and distribution bans, keys and other data are also shown.

The cards are housed in metal cabinets (Exhibit 2), built in three sections in "U" formation. They are equipped with drawers and posting trays on each section, with an elevated sectional rack for holding various types of completed and uncompleted work. The capacity of one complete file is about 45,000 cards. Each file is operated by one clerk. The cards are filed alphabetically by street name and numerically by street number. Due to the ledger formation the odd numbers are separated from the even on each street. Each street is classified by a heavy, clear vision guide card bearing the name, district, ledger and zone number. Lengthy streets are further subdivided by district, ledger and zone tabs.

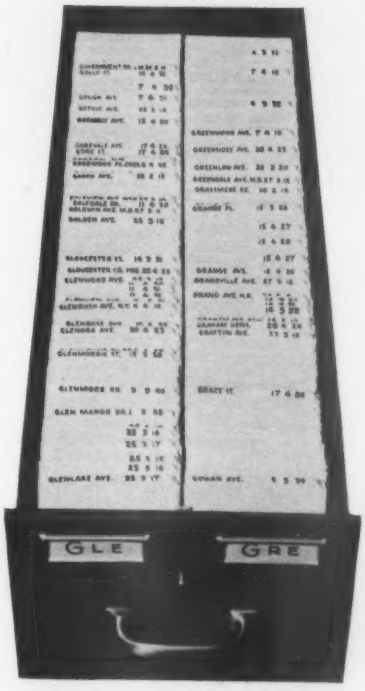


Exhibit 1

Operation

Orders are "cleared" or "registered" by using self-inking rubber stamps which show the type of order, the application and the completion dates. (Exhibit 3.) The symbol letters are indicative of the type of order cleared. Thus we have "M" for miscellaneous work, "R.C." for representative call orders, "C.O." for cut off meter orders, "J.C." for jobbing contracts, and "C" for all commercial or appliance work, etc. In all there are twelve different varieties of symbols used representing the different types of orders cleared. The handle of each stamp is colored to correspond with the color of the work tickets, to facilitate handling.

The information on the cards is transferred to the orders, according to the type of order being cleared. The file determines whether a meter should be set or turned on. With turn-on orders the size and company number of the meter is furnished. Appliance orders are cleared after a verification of the name and address has been made. If the record of the consumer is unsatisfactory, which is determined by previous non-payment registration, the order is held pending investigation by the Credit Department. The only exception to this rule is the C.O.D. and cash orders, which are safeguarded by collection at the time of installation or when order was taken. Due to the trend of deferred payments in the sale of merchandise, the file serves the purpose of the first step in credit investigation.

The registration of miscellaneous distribution work is a safeguard against abuse of our gratuitous service. Where faulty workmanship by outside agencies is discovered a ban is placed at the address shown on the work-ticket, so that subsequent orders cleared may be furnished with the information, as a guide for the workman. This method saves considerable time and expense in locating trouble on repeat calls. A classification of pressure and leak calls are also made on the cards for future reference.

Information

Appliance sales, meter work, salesman's prospects, final appliance inspections, appliance re-possession orders, non-payment lock orders, street line disconnections, meter work, jobbing contracts, and return bills, are passed through the file for registration.

One of the chief functions of the file is to prevent the issuance of duplicate orders. Useless trips are not only an added operating expense, but they are a source of annoyance to the consumer. With a registration of every order the clerk can readily determine duplicate work orders which, of course, find their way to the repeat and cancelled file.

On account of the vast store of information pertinent to the file, requests are received from many divisions of the company. Information on unused services is supplied to the Sales Department for sur-

Contribution of Customer Relations Committee.

Exhibit 2

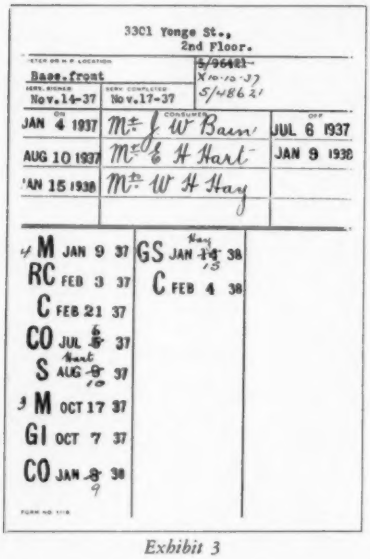


Exhibit 3

vey work. The Distribution Department may request information of pressure trouble in certain areas. Data may be requested on locked meters, appliance installations, meter sizes and numbers, consumers' names and floor designations, etc. The information available is always up-to-date, and is not only of value departmentally, but can be of assistance to every branch of the service.

The file is linked up with the telephone service so that the information is available to all departments. Especially important is the service it may render to the emergency night staff. Fire calls, or explosions, etc., where quick and accurate information is required to aid the workman, in these difficult situations, is available any hour day or night.

Conclusion

The strategic position and the inestimable value of the Clearing File in the general routine has become an indispensible agency in the rendering of a better service.

N. A. R. U. C. Reports Available

ATTENTION is called to the following reports of committees, incorporated in the Annual Convention Proceedings of the National Association of Railroad and Utilities Commissioners held at New Orleans, La., November 15 to 18, 1938. These reports are separately available for *immediate delivery:*

"Depreciation Principles and Methods"—prepared by the Subcommittee on Depreciation—Accounting for Depreciation, Depreciation in Rate Cases, Result of Straight-Line and Sinking-Fund Methods, Method of Estimating Depreciation Rates. This publication contains 12 charts and 15 tables. $1.50.

"Progress in Public Utility Regulation." The subject matter of this report is of general and of unusual national interest; a valuable contribution on the regulation of public utilities. $1.20. 1937 Report also available. $.75.

"Public Utility Rates." This is of special interest to public utilities as well as industrial and commercial enterprises using public utility services. $.60. 1937 Report also available. $.60.

"Public Utility Finance." Reference to present state and federal statutes relating to the regulation of the issue of public utility securities and a proposed state statute. Basis of security issues. Protection of bond issues through sinking and improvement funds. Non-voting stock. No par value stock. Sale of public utility securities under competitive bidding. $.75.

Reports and discussions on the following subjects are also incorporated in the 1938 Convention Proceedings book ($6 per copy, subject to change)—not separately available:

Rural Electrification.
Regulation of the Natural Gas Industry.
Statistics and Accounts of Public Utility Companies.
Uniformity of State Commission Procedure.
The Rail Transportation Problem.
Railroad Rates.
Motor Carrier Problems.
Motor Vehicle Transportation.
Uniform Motor Freight Classification.
Cooperation between State and Federal Commissions.
History of and Current Developments in Regulation.
Generation and Distribution of Electric Power.

All prices are plus postage in the U. S., Canada, and Mexico, except when remittance accompanies order. Orders from foreign countries must be accompanied by remittance in N. Y. Funds, adding 15¢ per book to prices indicated. Address orders to The State Law Reporting Company, Official Reporters & Publishers, N. A. R. U. C., 30 Vesey Street, New York, N. Y.

Air Conditioning Books

TO meet a growing demand for general information, "A List of 63 Recent Books on Air Conditioning" with particulars as to their contents, publishers and prices has been compiled in the Research Plans and Publications Section of the National Research Council, Ottawa, Canada, and may be obtained from that office at twenty-five cents per copy.

Quote Convention Paper on Natural Gas

NATION'S BUSINESS for January carries a quotation from the address by Joseph E. Pogue, vice-president of the Chase National Bank, New York City, on the natural gas industry, which was made last October at the annual convention of the American Gas Association and reproduced in the January issue of the A. G. A. MONTHLY. In the department, "Business Men Say . . . ." the following significant passage appears:

"The rapid growth of natural gas consumption is suggestive of an industry still in a vigorous and youthful state of expansion. The vitality of the natural gas business is remarkable even in comparison with the rapidly growing automobile and steel industries. The expansion is exemplified by the rise in volume to a 1937 level 24 per cent in excess of that reached in 1929. . . . . The great resource industries are wealth-creating activities, for they bring to the service of mankind in usable form the products of nature which are worthless if not vitalized into action by aggregates of technology, capital and man-power."

Mid-West Regional Gas Sales Conference Offers Comprehensive Program

L. W. Johnson

LEADING off the series of sales conferences sponsored annually by the Commercial Section of the American Gas Association, the Mid-West Regional Gas Sales Conference gets under way Thursday morning, February 9, at the Stevens Hotel in Chicago, Illinois. Other sessions will be held that afternoon and Friday, February 10. In addition there will be a well-rounded home service program on Saturday morning, February 11.

Under the chairmanship of L. W. Johnson, of The Peoples Gas Light and Coke Company, Chicago, a program which stresses drama and showmanship in selling will be presented. This type of program was an outstanding success at last year's mid-west meeting and should prove even further effective this year in view of recent developments in the gas industry.

Glenn Frank Keynoters

The keynote speaker will be Glenn Frank, of Madison, Wis., former president of the University of Wisconsin and widely known lecturer, editor, and author. Mr. Frank is noted for his ability as a public speaker and his remarks are expected to be a highlight of the meeting.

F. X. Mettenet, chairman of the Commercial Section and vice-president of The Peoples Gas Light and Coke Co., will address the opening session on "Customer Research." With a wealth of material available from his company's experience Mr. Mettenet is in a position to speak authoritatively on this subject.

The Certified Performance Range Program will receive close attention at the meeting. F. M. Houston, of Rochester, chairman of the Domestic Range Committee, and R. S. Agee, of the Association of Gas Appliance and Equipment Manufacturers, will bring the delegates up-to-date on CP developments and outline promotional plans which will go into effect shortly. A feature of this part of the program will be the presentation of a skit under the direction of H. D. Valentine, The Peoples Gas Light & Coke Company.

A special meeting of the CP regional managers and associate regional managers will be held on Wednesday, February 8, prior to the sales conference.

An innovation will be a forum on water heating which will be conducted by F. M. Rosenkrans, The Gas Service Co., Kansas City, Mo. Mr. Rosenkrans will query a selected group of water heating men regarding their activities, with particular reference to rental sales plans, sales promotion, dealer cooperation and promotional rate features. At the conclusion of the forum the main features of each plan will be summarized and discussed.

The important subject of "Gas for New Homes" will be covered by H. G. Schaul, chairman of the House Heating and Air Conditioning Committee. Other vital topics on the program are: "Advertising—Today and Tomorrow," "Selling More Gas Appliances," "Developing Personnel," "Direct Heating," "Refrigeration," "Home Service," and "Gas for Housing Projects."

The home service program on Saturday morning will be led by Gladys Price, chairman of the Home Service Committee, and home service director of Southern California Gas Company.

Following is an outline of the tentative program:

THURSDAY, FEBRUARY 9, 1939
10:00 A.M.

9:30-10:00 A.M. Organ Recital.

Chairman's Address, L. W. Johnson, The Peoples Gas Light & Coke Co., Chicago, Ill.

Keynote Address, Glenn Frank, Madison, Wis.

Customer Research, F. X. Mettenet, The Peoples Gas Light & Coke Co., Chicago, Ill.

Advertising—Today and Tomorrow (speaker to be announced).

THURSDAY, FEBRUARY 9, 1939
2:00 P.M.

Presiding: E. R. Felber, Madison Gas & Electric Company, Madison, Wis.

Certified Performance Ranges, F. M. Houston, Chairman, A. G. A, Domestic Range Committee, Rochester Gas & Electric Corp., Rochester, N. Y.; R. S. Agee, Association of Gas Appliance and Equipment Manufacturers, New York, N. Y.

Selling More Gas Appliances (speaker to be announced).

Skit on Certified Performance Ranges. Directed by H. D. Valentine, The Peoples Gas Light and Coke Co.

FRIDAY, FEBRUARY 10, 1939

9:30-10:00 A.M. Organ Recital.

10:00 A.M.

Presiding: E. G. Peabody, Central Indiana Gas Co., Muncie, Ind.

Developing Personnel (speaker to be announced).

Direct Heating, R. L. Towne. Surface Combustion Corp., Toledo, Ohio.

Gas for New Homes, H. G. Schaul, Westchester Lighting Co., Mt. Vernon, N. Y.

Gas for Housing Projects, C. V. Sorenson, Midland Subsidiary Corp., Chicago, Ill.

FRIDAY, FEBRUARY 10, 1939
2:00 P.M.

Presiding: L. W. Johnson, Chairman, Mid-West Regional Gas Sales Council, The Peoples Gas Light & Coke Co., Chicago, Ill.

Home Service, Gladys Price, Chairman, A. G. A. Home Service Committee, Southern California Gas Co., Los Angeles, Calif.

Refrigeration, R. J. Rutherford, Chairman, A. G. A. Refrigeration Committee, Worcester Gas Light Co., Worcester, Mass.

Forum on Water Heating, To be conducted by: F. M. Rosenkrans, The Gas Service Co., Kansas City, Mo. (Scene to be laid as in a tavern—Ray Fenton of The Peoples Gas Light & Coke Company will serve beer to those participating.)

1. A. P. Lewis, Central Illinois Electric & Gas Co., Rockford, Ill.
2. B. T. Franck, Michigan Consolidated Gas Co., Grand Rapids, Mich.
3. R. E. Ginna, Rochester Gas & Electric Corp., Rochester, N. Y.
4. C. A. Nash, The United Light & Power Service Co., Davenport, Iowa.

HOME SERVICE PROGRAM
SATURDAY, FEBRUARY 11, 1939
9:45 A.M.

Presiding: Lucille Hall, Michigan Consolidated Gas Co., Grand Rapids, Mich.

Remarks by Chairman of Sales Conference, L. W. Johnson, The Peoples Gas Light and Coke Co., Chicago, Ill.

Information Please—Quizzing the Experts on Kitchen Planning, Presiding: Lucille Hall.

1. Arthur Blitz, Wisconsin Public Service Corp., Sheboygan, Wis.
2. Harry Swenson, The Peoples Gas Light & Coke Co., Chicago, Ill.
3. Kenneth Brown, Milwaukee Gas Light Co., Milwaukee, Wis.

Home Service Aids Water Heating Sales, Betty Boyle, The Gas Service Co., Kansas City, Missouri.

Skit: A Water Heater Home Call, Betty Jane Reeves and Jane Marshall, The Gas

Service Co., Kansas City, Mo.
Wider Home Service Contacts, Mary Louise Hurster, Laclede Gas Light Co., St. Louis, Mo.
The Service Department and Home Service, George E. Ludwig, Michigan Consolidated Gas Co., Grand Rapids, Mich.
Announcement of 1939 Home Service Conference, Gladys Price, Chairman, A. G. A. Home Service Committee, Southern California Gas Co., Los Angeles, Calif.

SATURDAY, FEBRUARY 11, 1939
12:30 P.M.

Luncheon.
Amusing Interludes, Mrs. Vera Carter Ault, Public Service Co. of Colorado, Denver, Colo.
A Home Service Survey on the CP Range, F. M. Houston, Rochester Gas & Electric Corp., Rochester, N. Y.

Convention Cruise Is Setting for Southern Sales Meeting

A CONVENTION Cruise to Havana is in store for those who attend the Southern-Southwestern Regional Gas Sales Conference, sponsored by the Commercial Section, and the Southern Gas Association Convention, which are being held jointly aboard the S.S. *Rotterdam,* March 19-24. This luxurious ocean liner, with its elaborate accommodations, will be the setting for a top-notch business and sales program.

A. M. Spencer, Georgia Power Company, Columbus, Georgia, is chairman of the committee in charge of the sales conference program which will be held on Monday afternoon, March 20, and Thursday afternoon, March 23. Home service activities have been given a special place at the General Sessions' meeting Thursday morning, March 23.

Conrad N. Lauer, president, American Gas Association, will be one of the principal speakers at the convention.

CP Program Topic

The sales conference program, Monday afternoon, opens with an address by Carl Sorby, George D. Roper Corp., Rockford, Ill., entitled, "What the CP Range Means to the Gas Industry." Progress on CP range promotion will be outlined by L. M. Taylor, Mississippi Power & Light Co., Jackson, followed by a discussion of this subject by C. B. Wilson, Little Rock; Dean Strickland, Houston; Robert C. Anderson, Memphis, and James Hodge, Baton Rouge. This session also will include addresses on "Heating Codes" by W. A. Hudson, Houston, and "A Business Man Speaks Up," by Ralph W. Carney, Wichita.

The home service part of the program, Thursday morning, will be led by Helen Hatcher, Memphis Power & Light Company. It will consist of important papers on home service from the sales angle and a movie, "Mrs. Antique and Mrs. Modern," by Albertine Berry, Lone Star Gas Co., Dallas.

"Gas Refrigerator Promotion" will be discussed by H. Carl Wolf, Atlanta, in the opening paper at the final sales session, Thursday afternoon. The feature address at this session will be "How To Sell" by Elmer Wheeler, president, Tested Selling Institute, New York. Mr. Wheeler's famed "tested selling sentences" have been submitted to over 19,000,000 people by clients that include some of the largest firms in the United States.

The afternoon session also includes an address on "Automatic Water Heater Promotion" by E. D. Brewer, Atlanta, and two sound slide films, "Sell Yourself" and "Sell the Plus."

The itinerary of the five-day cruise will be as follows:

Sunday, March 19—Sale from New Orleans, the Cotton Wharf, at 12:00 Noon.
Monday, March 20—At Sea. Morning—General Sessions. Afternoon—Sales, Technical, Industrial, and Home Service Conferences.
Tuesday, March 21—Arrive Havana 3:00 P.M.
Wednesday, March 22—Sail from Havana 3:00 P.M.
Thursday, March 23—At Sea. Morning—General Sessions. Afternoon—Sales, Technical, Industrial and Home Service Conferences. Annual Banquet.
Friday, March 24—At Sea. Morning—General Session. Election of Officers. Due New Orleans at 12:00 Noon.

A detailed business program, listing the many excellent speakers and open forums conducted by outstanding authorities, will be mailed to the gas industry.

Exceptional social events, made possible by the recreational facilities of the S.S. *Rotterdam,* will appeal particularly to the wives of delegates attending the convention.

Eastern Natural Gas Sales Conference Has Strong Program

R. E. Williams

A COMPREHENSIVE and instructive program of sales topics with particular reference to the eastern natural gas field is rapidly being completed for the Eastern Natural Gas Regional Sales Conference which will take place March 2-3 at the Roosevelt Hotel, Pittsburgh, Pa. The general objectives of the conference have been defined by R. E. Williams, Binghamton Gas Works, Binghamton, N. Y., chairman of the conference, as follows:

1. To afford recognition of successful sales activities in the eastern natural gas field.

2. To give those attending the opportunity of conversing with others in similar work on sales problems of mutual interest.

3. To present to eastern natural gas men the several national sales and advertising programs and activities in a way to inspire greater sales efforts.

Outstanding speakers on a variety of subjects will address the conference. Extemporaneous speeches of an inspirational nature will be the order of the day and it is planned that, with one or two exceptions, no papers will be distributed after the meeting.

Two "get-together" luncheons will provide an opportunity to exchange information on many pertinent problems in addition to promoting discussion among the delegates.

Some of the subjects slated for discussion are: "Gas in New Homes," "Housing Developments," "National Advertising," "Training Employees and Dealers," "Gadgets, Women and Ranges," "CP Range Program," "1939 Refrigeration Possibilities," "Water Heating," "Gas Heating Equipment" and "Promoting Non-Residential Heating."

A home service forum, with a number of home service directors participating, will be a feature of the conference.

Gas Heat Ambassador

WHEN H. G. Schaul, chairman of the House Heating and Air Conditioning Committee of the Commercial Section, finishes his itinerary in February, he may well be called the industry's outstanding ambassador for gas heat. At least, he will have been the most active.

His first stop is Chicago, Ill., on February 10, where he will speak at the Mid-West Regional Gas Sales Conference on "Gas for New Homes." His next appearance will be at the New England Gas Association convention in Boston, Mass., on February 16, where he will discuss the "Progress of Gas House Heating."

From New England, Mr. Schaul jumps to Philadelphia, February 17, where he is to appear before the Philadelphia Metropolitan Gas House Heating Council to outline "A Recommended Program for Gas for New Homes." He winds up his monthly schedule on February 24 after leading the group discussion on House Heating at the meeting of the Empire State Gas & Electric Association in New York City.

Industrial Gas SECTION

F. H. TREMBLY, JR., *Chairman*
F. T. RAINEY, *Vice-Chairman*
E. D. MILENER, *Secretary*

The Industrial Gas Section Rolls Up Its Sleeves for 1939

By HARRY W. SMITH
American Gas Association

THE year 1939 is going to be a big year for the Industrial Gas Section. Along with his announcements of committee appointments for the year, Frank H. Trembly, Jr., chairman of the section, sends news of "what's on the fire." Each committee has been given a definite assignment to tackle—some pressing point of wide interest to probe. But no assignment is so broad, so general, that a year's honest effort by such capable men won't produce definite reportable results. Further, every committee this year is a sales committee—its main job is to produce ammunition we can all use in selling more non-residential gas. Engineering and economic studies are being undertaken where they are part and parcel of powerful sales plans.

Let's look at a few of the committees and their assignments—and see the type of results to which we may look forward.

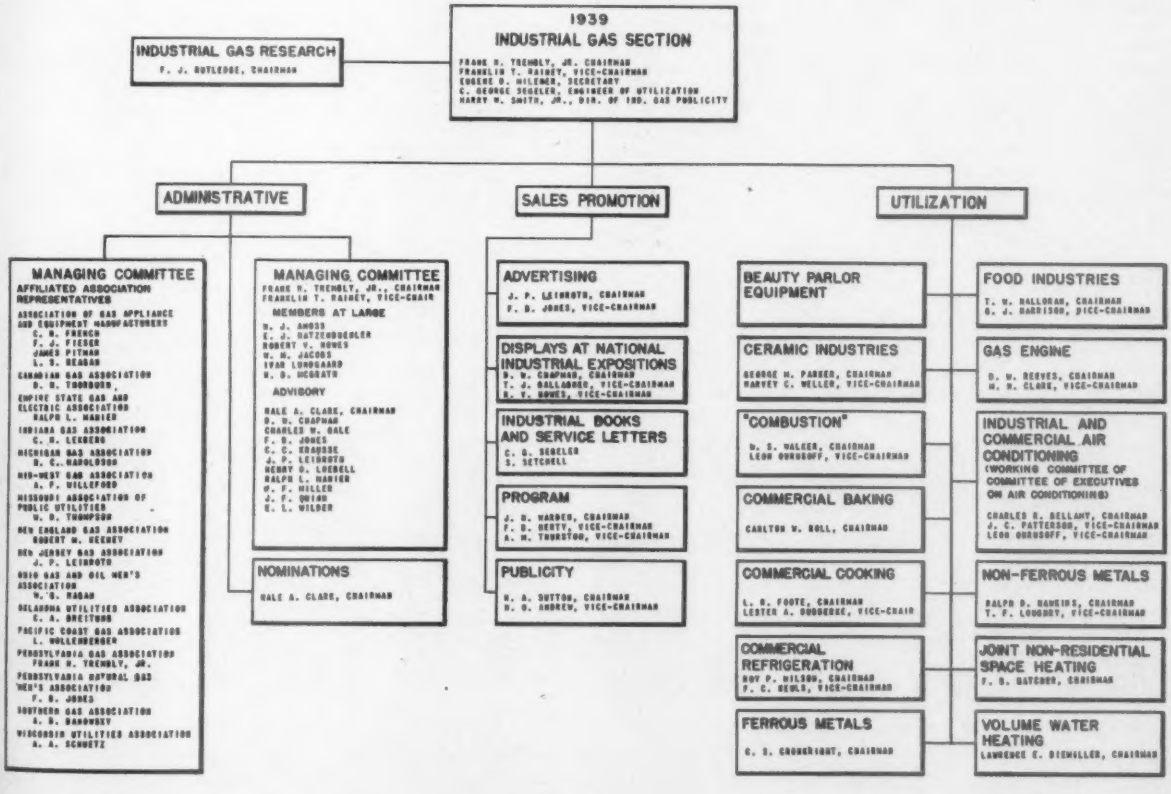
Ceramic Industries Group To Concentrate on Enamels and Glasses

Under a new captain, George M. Parker, Mississippi River Fuel Corp., St. Louis, the Ceramic Industries Committee will restrict its studies to applications ot gas to porcelain enameling and glass making. Cost studies will be undertaken to arrive at economic guides or formulae which will aid the industrial gas man in planning enameling or annealing installations. Harvey C. Weller, the new vice-chairman and ceramic firing expert with Surface Combustion Corp., Toledo, is developing considerable helpful data to offer in this connection.

In view of the several newer types of gas equipment which have recently been developed for the ceramic industries, the committee will make studies of the adaptability of such apparatus to various ceramic firing jobs. The radiant tube enameling furnace and the convection heated glass lehr are examples.

"Combustion" Handbook Committee Plans Revised Fifth Edition

Reappointed as chairman and vice-chairman, respectively, of the Advisory Committee on "Combustion" Handbook, W. S. Walker, Consolidated Edison Co. of N. Y., Inc., and Leon Ourusoff, Washington (D. C.) Gas Light Co., plan this year to publish the fifth edition of the familiar text, "Combustion," accepted among combustion engineers and engineering universities as an outstanding work in its field. The editor. C. George Segeler, has been working for some months with the committee to assem-



George M. Parker, Ceramic Industries Committee

W. S. Walker, Advisory Committee on "Combustion" Handbook

Carlton W. Roll, Commercial Baking Committee

Lawrence R. Foote, Commercial Cooking Committee

Roy P. Wilson, Commercial Refrigeration Committee

T. W. Halloran, Food Industries Committee

ble valuable revisions and promises a volume which will be both more complete and up-to-date.

Both Large and Small Bakeries To Be Studied by Same Body

A Commercial Baking Committee this year will, for the first time, concern itself both with the large and the small (or "corner") bakery, but cover no other aspects of commercial cooking. Heretofore attention was divided—with the Committee on Commercial Cooking including all small portable baking equipment along with other kitchen appliances, and the Baking group attending only to huge production units. Carlton W. Roll, The Brooklyn Union Gas Co., who is well known in the baking field, chairmans the committee.

Studies of sales methods and economics of gas utilization in both large and small establishments will be undertaken, with particular attention focussed on the many new types of ovens, such as the revolving tray varieties and those deck ovens on which new and different firing arrangements are being used. The sales possibilities of small ovens of the peel, reel, cabinet, and rotary types will be reported upon.

Commercial Cooking Committee Promises New Handbook

A new handbook on the application of gas to commercial cooking—one full of sales, engineering, appliance, and kitchen-planning data—is promised by Lawrence R. Foote's Commercial Cooking Committee in 1939. As each chapter is completed it will be submitted to the membership of the Industrial Gas Section and to equipment manufacturers in the form of an Interim Bulletin. The final volume is expected to constitute the most complete work of its kind, and should become an invaluable tool in the hands of those who are interested in making the most of gas in the kitchens of the nation's hotels, restaurants, institutions, etc.

This committee will also work closely with the Committee on Industrial Gas Research in its recently launched program of development and improvement of counter gas appliances.

New Committee To Investigate New Field for Gas Sales

Brand new in the non-residential gas field is gas-fired equipment for commercial refrigeration—apparatus for use by retail stores in keeping meats, groceries, dairy products, flowers, etc., cool and fresh. A healthy market promises to be opened for gas by these direct-fired absorption units with no moving parts. Therefore, the Industrial Gas Section has formed a new committee under Roy P. Wilson, The Philadelphia Gas Works Co., and assigned it to study the equipment in relation to potential commercial gas sales. A number of test installations, recently made, will be analyzed from both performance and economic viewpoints.

Status of Atmosphere Gas Furnaces Objective of Ferrous Metals Group

Clayton S. Cronkright, Public Service Electric & Gas Co., Newark, N. J., appointed to lead the Committee on Ferrous Metals, will tackle the complicated subject of industrial gas furnaces using controlled atmospheres surrounding the work. His committee will probe the economics of various types of atmosphere generation and control. In addition, an attempt will be made to analyze and report upon the sales features of new metal heat-treating processes currently in the industrial limelight—for example, gas-fired air tempering and gaseous cyaniding.

Bulletin on Chicken Brooding with Gas Now Ready

A diversified and idea-inspiring series of Interim Bulletins is the pledge of T. W. Halloran, New York Power and Light Corp., Albany, and his Committee on Food Industries. Already the first bulletin is off the presses—an analysis of the place of gas in chicken brooding. Others to be looked forward to include studies of the use of gas for meat smoking and those amazing new methods of partially cooking foods before their retail distribution. One of these new stunts is the "tenderizing" of hams, and it will not be neglected by the Food Industries Committee. Last year this committee conducted a general survey on the use of gas in all food industries, and this year it is getting down to detailed investigations of specific markets within the tremendous general field.

Another "First"—A Handbook on Gas Engine Power

Another conspicuous sales tool is projected by the Gas Engine Power Committee under D. W. Reeves, Oklahoma Natural Gas Co., Tulsa, the new chairman. It will be the first sales-engineering handbook in this field to be sponsored by the American

D. W. Reeves, Gas Engine Power Committee

Charles R. Bellamy, Ind'l and Comm'l Air Conditioning Committee

Ralph D. Hawkins, Non-Ferrous Metals Committee

D. W. Chapman, Com. on Displays at Nat'l Ind'l Expos'ns

J. P. Leinroth, Advertising Committee

H. A. Sutton, Publicity Committee

Gas Association. More than one natural gas utility has begun to squint at potential gas engine power loads in the past few years, and an authoritative compendium of experience up to the present time should help considerably. Thanks are due to C. Remschel, Southern Counties Gas Co., Los Angeles, who has outlined the content of the handbook and has contributed considerable material.

In addition, as indicated in last year's report, the gas engine boys will study progress and possibilities in both improved waste heat utilization and improved servicing of gas-fueled internal combustion engine installations.

Actual Case Histories in Industrial and Commercial Gas Air Conditioning

After producing the excellent and exhaustive 70-page analysis it presented at the Annual Convention last fall, the Industrial and Commercial Air Conditioning Committee will follow through this year with a series of illustrated case histories. These will be cost analyses of gas summer air conditioning installations now operating in industrial, commercial, and domestic fields.

Having already "made history" as far as keenly evaluating the present place of and future possibilities of gas in the air conditioning picture, Charles R. Bellamy's committee is being counted on to turn up real and broad-gage plans for gas sales managers before another convention rolls around.

Hawkins and Cohorts Tackle Metal Melting

The Non-Ferrous Metals Committee, Ralph D. Hawkins, The Bridgeport Gas Light Co., chairman, is continuing its studies of methods of securing a larger share of the metal melting business. The more efficient crucible melters now available are making this effort effective. Additional studies of the economics of gas for heating operations in rolling mills are also being made.

Ins and Outs of Unit Heater Selling up for Analysis

Under a new leader, F. B. Hatcher, Washington Gas Light Co., the joint Non-Residential Space Heating Committee is concentrating upon the sales aspects particularly of the gas unit heater business. Last year its concern was chiefly with the engineering phases of unit heater applications. Matters of sales methods, likely markets, dealer assistance, salesmen's compensation, restrictions on installations, competition, servicing, and load desirability, will all be considered.

With respect to Volume Water Heating, it has been decided that the reports offered last year bring things pretty much up-to-date. Therefore, this committee will not function as a unit for at least another year, although its chairman, Lawrence E. Biemiller, Consolidated Gas Electric Light & Power Co. of Baltimore, is assembling interesting data on noteworthy matters in connection with large-scale water heating.

Display and Advertising Committees Announce Plans

The Committee on Displays at National Industrial Expositions announces that it will participate in three shows during 1939. By restricting its activities to national shows only, the Displays Committee will be able to do an even more outstanding job than it has done in the last few years. Through this committee, under the direction of D. W. Chapman, chairman, the Industrial Gas Section will participate in the National Restaurant Exposition, the National Metal Congress and Exposition, and the National Hotel Exposition. The National Exposition of Power and Mechanical Engineering will not be held in 1939.

With regard to the non-residential phases of the Association's National Advertising Program, the Advertising Committee of

(Continued on page 80)

INDUSTRIAL & COMMERCIAL NATIONAL ADVERTISING FOR FEBRUARY

The Advertising Committee of the Industrial Gas Section, J. P. Leinroth, chairman, and F. B. Jones, vice-chairman, announces that full-page advertisements will appear in the following trade and business magazines during the month of February:

Magazine	Date	Topic
American Restaurant	February	Gas for Commercial Cooking
Bakers Helper	February 18	Improved Bake Ovens
Bakers Weekly	February 11	Improved Bake Ovens
Ceramic Industry	February	Gas in the Ceramic Industry
Food Industries	February	Gas for Heat Processing of Foods
Hotel Management	February	Gas for Commercial Cooking
Industrial Heating	February	Gas for Heat Treating Metals
The Iron Age	February 23	Gas for Heat Treating Metals
Metal Progress	February	Gas for Heat Treating Metals
Metals and Alloys	February	Gas for Heat Treating Metals
Modern Beauty Shop	February	Gas Hair Dryers
Modern Hospital	February	Gas for Commercial Cooking
Steel	February 20	Gas for Heat Treating Metals

GOING AHEAD *with Industrial Gas*

WASHATERIAS—a new outlet for volume gas water heating. Bring your wash to a central building in your town and scrub, scrub, scrub for 35¢ an hour with plenty of gas heated hot water thrown in. There are said to be over 500 Washaterias in Texas alone.

Harry Woolman of Jersey Central Power & Light Co. advocates changing the term "Ceramic Broiled Steaks" to "Radiant Broiled Steaks." Claims it will be more effective in competing with charcoal broilers. What do you think?

Industrial Gas Section shows will be concentrated in national industrial expositions this year. The better expositions now control their attendance so that maximum returns to exhibitors result.

Even though copy for A. G. A. Industrial National Advertising has been jazzed up for this year, more specific facts are being worked into the ads than formerly. Are you using the advance proof sheets to the best advantage?

Elmer Cook of American Gas Furnace Co. has a 10-step sales plan for industrial furnaces. The plan looks good. It will pay you to get a copy of his paper and study it carefully. No charge for copies.

Looks like industrial summer air conditioning is going to town in 1939. The fine operating results of many 1938 jobs are attracting attention.

Jack Warden of Tulsa, George Parker of St. Louis, Carl Roll of Brooklyn, D. W. Reeves of Tulsa, Roy Wilson of Philadelphia, Clayton Cronkright of Newark, and Bert Hatcher of Washington are chairmen of Industrial Gas Section committees this year for the first time. All seem to know their industrial gas.

Looks like the next big play in commercial gas cooking will be in hospitals. New hospitals and extensions to old ones are popping up like mushrooms all over the country. Get in early on every prospect in your city.

Aims, Ideals and Methods of the Natural Gas Section

Removal of the Natural Gas Section headquarters from Dallas, Texas, to New York City on January 1 makes it timely to re-state the aims and ideals of the section. In doing this, Mr. Poe appeals for a more articulate membership so that the section's program will fully reflect the needs of the industry.

With headquarters in New York, the section is now able to cooperate more fully with the other sections of the Association and to take full advantage of the extensive facilities of general headquarters. It is also closer to other organizations conducting research activities in which natural gas companies are interested, especially with respect to problems of exploration, production and scientific developments.

By E. H. POE

Secretary, Natural Gas Section

E. H. Poe

THE aim of the Natural Gas Section is to better organize the widespread activities of the industry and unite in fellowship the natural gas men of the United States and Canada; to promote scientific and practical efficiency of the industry; to engender a thorough-going sales-mindedness, thereby increasing the demand for gas service; and to bring about a more complete understanding between consumers and employees. In return it will follow that the industry will render a more perfect service and make possible the profits to which its investors are entitled.

There is little need for elaborate discussion of these aims. It is the application of the ideals to actual problems and complexities which command our attention. It is the methods we should use in following these ideals that concern the members of the American Gas Association and its staff.

An association belongs to its members. The word association means, "the connection of ideas in thought; . . . . *"or a body of persons associated together for the promotion of a common purpose."*

It is reasonable therefore to ask the members of the Natural Gas Section to find the answers to the broad questions of how the aims of the section may best be realized. The section exists to render service to its members; to tell the public the story the industry has to tell and to keep assembled data and information on all phases of the industry as an element to better servicing of its members.

The writer recently reviewed the programs of the natural gas industry for the past ten years. Much has been accomplished and there is a bigger job ahead. Many subjects have had our attention. Some 100 on domestic and commercial sales; about 400 on industrial sales; every phase of exploration, production, transmission and distribution; accident prevention; rates; employee training and education; taxes; legislation; history; advertising; research and many other phases can be reviewed in the Proceedings since 1928.

The leadership, thought and hard work of executives and committee members during the years have contributed in a large way to effective operation of gas properties. The industry has put into practice better methods and rules for handling the operating job and is getting better results at less outlay. Operating ratios are being improved by elimination of misplaced energies which a few years ago were wasted. Additional improvements and efficiencies can be produced. Many of the problems are still current and need the continuing attention of this section.

We would like to have from the membership their suggestions as to what problems or phases of the industry the Natural Gas Section should particularly stress dur-

(Continued on page 80)

Photographed here are members of the Program Committee of the Natural Gas Section who met in Hot Springs, Ark., Dec. 17, to make plans for the annual natural gas convention to be held in Tulsa, Okla., May 8-11. Presided over by Elmer F. Schmidt, vice-president of Lone Star Gas Company, chairman of the committee, the group outlined a program which will encompass vital problems on every phase of the industry. In the picture are, left to right, front row: Joseph Bowes, W. G. Wiegel, Cecil Hightower, John H. Warden, Chairman Schmidt, J. French Robinson, G. M. Parker. Second row: J. L. Foster, W. C. Grant, Davis DeBard, E. C. Joullian, A. H. Weyland, W. L. Woodward, L. T. Potter. Third row: Clay Briggs, L. L. Baxter, F. S. Kelly, C. B. Wilson, C. U. Daniels, R. E. Wertz. Back row: George H. Baird, E. H. Poe, Max K. Watson, R. W. Hendee

Technical SECTION

F. M. GOODWIN, *Chairman*
A. M. BEEBEE, *Vice-Chairman*
H. W. HARTMAN, *Secretary*

Economic Trends and Their Effect upon Coal vs. Oil for Making Gas

By WARREN BLAUVELT

Hudson Valley Fuel Corp., Troy, N. Y.

AS the delivered cost per B.t.u. of residual fuel oil is now less than the corresponding cost of gas making coal at North Atlantic ports, it is timely to consider the economic trends which in the long run will determine whether coal or oil should be used for making gas. These trends depend upon three variables:

1. The relative available known quantities in nature's storehouse of the two resources—coal and oil.
2. The relative technological development of:
   a. processes for recovering oil and coal from their natural deposits;
   b. methods for transporting coal and oil;
   c. processes for the conversion of oil and coal into gas;
   d. processes affecting the market for oil and coal products, other than gas.
3. The relative effects of legislation and administration, federal, state and local, upon the total cost per therm of coal gas and of oil gas at the gas manufacturing plant.

Relative Known Available Quantities of Coal and Oil

Twenty years ago it was generally believed that the reserves of oil in the earth were so limited that annual consumption would necessarily be curtailed within a decade. History has disproved this belief. "Recoverable oil reserves have been trebled since 1925. In that year the reserves of the country were estimated to total 5,323,000,000 barrels. Since that date the nation has produced 11,303,718,000 barrels and today the estimated known reserves are 15,507,268,000 barrels."*

While it is true that the productive period of our coal fields with probable rates of mining is measured in centuries as compared with decades for our oil fields, the slogan "Eventually, why not now?" is not practically applicable. Known reserves of oil are believed adequate for all anticipated consumption demand for at least twenty years.

Relative Technological Development

Progress in the art of bringing crude petroleum to the surface during the past twenty years has been far more rapid than in the older art of coal mining. That future technical progress in reducing the cost of producing oil will be at least as great as in mining coal appears probable.

Notable technological progress has been made in the railroad transportation of coal; probably the total cost in man hours per ton mile is now less than half the comparable cost thirty years ago. It may be questioned whether as great progress has been made in the transportation of oil by pipe lines during this period.

Probably technological progress in water transportation, loading and unloading cargoes, has proceeded at similar rates for both fuels. There appears little prospect of improvements in transportation methods that will materially affect the relative costs of coal and oil at destinations near the Atlantic seaboard in the near future.

Technological progress has been more rapid in commercial methods of making gas from coal than from oil during the past twenty years. Until recently, in most places where gas was manufactured in quantities, coal cost less than oil on a heat unit basis and in many places where oil was the cheaper gas-making material, natural gas was available. Also the residuals, coke, ammonia, tar and light oils were marketable at prices which, in some cases, provided enough revenue to pay for the coal and all conversion costs. Hence there being no great incentives, comparatively little work was done to develop commercial processes, for making base load gas from oil. Substantial progress was made in developing the carburetted water gas process to use the cheaper residual oil and to use more oil and less generator fuel when price relations made this profitable.

Technological developments in other fields have profoundly affected the coal gas industry.

Improvements in the preparation of anthracite and the development of mechanical stokers for domestic use have helped anthracite to hold its competitive position compared with coke. The development of automatic oil-burning equipment has also made inroads into the coke market. These developments have had more effect to date in preventing the price of domestic coke from advancing to cover the increased cost of coal and of its conversion into gas and coke, than in reducing the tonnage sold.

The development of the atmosphere nitrogen process has reduced the price of sulphate of ammonia about 60% although the cost of the acid used has advanced.

Developments in petroleum technology are reducing the revenue from light oils.

For ten years or more we may expect a lower cost of oil than of coal, on a B.t.u. basis, in many places where gas is made in large quantities. In view of this fact combined with the reduced revenue from coal gas residuals, will not technical research be stimulated to develop commercial processes for making gas from the cheap residual fuel oil? Such processes when developed will tend to replace coal gas processes. That a process can be developed for completely converting residual fuel oil into gas suitable for general distribution, with an over-all efficiency of 80% seems not only possible but probable. The capital investment and the labor employed to operate and maintain such a plant might both be less than one third as much as in a coal gas plant.

Effects of Legislation

But, there is another factor to be considered—political government—the alleged objectives of which, regardless of political party names, are the maintenance of the "inalienable rights" to "life, liberty and the pursuit of happiness," the development of opportunities for useful work for all who are able and willing to work, higher standards of living, "the more abundant life," and the conservation of natural resources for ourselves and for future generations. Unfortunately for ourselves and for future generations, the methods employed by *all* political parties inevitably tend to defeat these purposes. The story of oil versus coal for gas making is an excellent illustration of this tragic paradox. Good intentions, even though backed by the utmost sincerity and publicized by clever writers and eloquent orators, are not satisfactory substitutes for knowledge and wisdom.

As the known reserves of coal vastly exceed the known reserves of oil, a wise conservation policy would establish economic conditions favorable to the use of coal rather than oil, for all purposes where either could be used to produce the desired results.

Unemployment—idle men—is the most acute political and economic problem now

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Presented before New England Gas Association, Boston, Mass., January 20, 1939.

* E. O. Thompson, Interstate Compact Chairman—quoted in N. Y. Journal of Commerce, November 25, 1938.

facing us. Probably at least three times as much labor is employed in producing, transporting and converting coal into gas as is required for the production, transportation and conversion of oil into gas. The economic environment established by legislation should be such as to encourage the use of coal rather than oil for this purpose.

Idle capital[1] and the notable reduction in the rate of its production, presents a problem actually, though not yet politically, as serious as that of idle men; unemployment in the industries producing capital goods is more serious than in these producing consumption goods; hence legislation should not punish but should encourage capital investment. When capital can be safely invested in productive enterprises with a reasonable hope of a fair return, capital investment will increase, more men will be employed, more goods will be produced, and "the more abundant life" for al. will at least be made possible.

Capital Investment

A far greater investment of capital is required for the production, transportation and conversion of coal into gas than is required for the production, transportation and conversion of oil into gas. Hence legislation should not increase the risk and reduce the possible reward for the thrift, enterprise and assumption of risk involved in the production, transportation and conversion of coal into gas. On the contrary, wise legislation would repeal those laws which now increasingly handicap the use of coal in its competition with oil for gas making.

Three kinds of law tend to increase the cost of coal gas more than the cost of oil gas, and the failure to enact another kind of law in conformity with sound economics and ethical principles has the same effect.

1. We have passed laws taxing labor products and incomes derived from productive service; we have imposed specially heavy taxes on capital investment—the tools of production. All these taxes have been imposed and are now being increased in utter disregard of the undeniable fact that such taxes increase the cost of living, reduce production and the purchasing power of those engaged in productive industry, and thus reduce employment.
2. Under the guise of Liberalism, numerous "reforms" have been enacted. We have passed laws which vainly attempt to increase the wages of all labor by arbitrarily increasing wage rates per hour and limiting the hours of productive labor; *as though by producing less the producers would have more!* In this class is all the so-called "security" legislation. In olden times, it was said: Put not your trust in Princes; this might be modernized: Put not your trust in Political Royalists.
3. Laws which curtail free competition and substitute political control of business conduct.

[1] "Capital" as used herein means wealth saved, risked and used to produce more wealth. "Wealth" means all material things having exchange value, produced by human labor.

All of these laws are more or less popular with an electorate that believes in the magic of the omniscience of elected persons, and that such omniscience, to be made effective in curing our social and economic ills, should be endowed with omnipotence.

"The power to tax is the power to destroy." Instead of using this power to destroy economic parasitism, we are, at a constantly accelerated rate, using it to destroy productive industry in general. And the evil effect thereof is far greater in those industries where relatively heavy capital investment is involved and where much labor is regularly employed, than in industries involving relatively less capital investment and less employment of labor. The evil effects upon productive industry, of our failure to enact good laws, and of our enacting bad laws because of the natural results of that failure, may be clearly seen in their effects upon the coal gas industry.

As the coal industry has been very sick, and as mine workers with reduced working time were poverty striken, additional taxes were levied to provide "security" for workers. The National Coal Association recently reported: "Our computation of taxes, State and Federal, actually paid by the producers of bituminous coal in 1937, and which were an actual charge upon operating revenue, shows that they amount to $55,763,283. The comparable figure for 1936 was $36,316,891. This was an increase of 53.5%. It was an average tax load of 12.6 cents on every ton produced in 1937."

Wage Rates Advance

Partly as a result of legislation affecting labor relations, average wage rates per hour are reported by the Bureau of Labor Statistics to have advanced from 49.6 cents in 1933 to 87.6 cents during the first eight months of 1938. But working time was reduced and the cost of living advanced, so it may be questioned whether the mine workers' economic condition was really improved. The Bureau of Mines reported that the average production of coal per man per day decreased from 4.78 tons in 1933 to 4.62 tons in 1936, the last year for which figures are available.

The mine prices of coals, suitable for gas making, have advanced over 50 cents per ton since 1933 and further advances may be confidently expected if minimum prices are established by the Commission. These advances in prices, which have had little or no beneficial effect upon the financial distress of coal producers, are the natural effects of ill devised legislation which adds to the cost of production in the vain attempt to avoid the ill effects of earlier legislation not in harmony with natural economic law.

Price regulation under the Bituminous Coal Act apparently is particularly hard on the coal gas industry. Probably no other industry buys so large a tonnage at so uniform a rate, regardless of the season of the year, or of variation in general industrial activity. Tonnage, uniformity in the rate of shipments, and the nearly complete elimination of selling expense and of credit risk, tend to reduce the producer's unit cost on such business and the average unit cost of his total output. In a free market the producer's cost reduction due to these causes tends to be shared with the cooperative buyer. It appears probable that no reduction from the minimum prices to be established by the Commission will be permitted. This is another case where legislation interfering with the beneficient results of natural economic law in a free market, may further increase the cost of coal for making gas.

But the cost of coal at the mines even now is only 50% to 65% of the freight charges to Eastern gas manufacturing destinations. From 1907 to 1936 freight tariffs were increased from 66% to 88%. The Clearfield rate to New Haven advanced from $2.25 to $3.24—66%! the Clearfield rate to New York advanced from $1.85 to $3.37—82%; and the Pittsburgh rate to New York advanced from $1.92 to $3.62—88%.

In 1907, Class 1 Railways earned 4.07% on their net capitalization whereas with the higher rates in 1936, they earned but 1.23% on their net capitalization, although the carriers whose income was largely derived from carrying bituminous coal were very prosperous.

The sad plight of the carriers like that of the coal producers is due to the same cause —bad laws which vainly attempt to substitute political action for the free play of natural economic law, under the specious pretense of "promoting the general welfare."

The following figures were compiled or calculated from Interstate Commerce Reports on Class 1 Railways:

	1907	*1936*
Locomotives in service	55,388	48,009
Tons freight carried	1,796,336,659	1,805,766,847
Number of employees	1,672,074	1,086,405
Tons freight carried per year per employee	1,074	1,662
Average freight revenue per ton mile	$0.0075	$0.0098
Tax accruals—per cent of net capitalization	.615	1.771
Tax accruals—per cent of net income	15.1	146.6
Tax accruals—per ton freight carried	0.041	0.1799

Technological progress, improved organization and efficiency are indicated by the greater tonnage moved with less locomotives and less employees. One effect of bad laws is shown in the increase in taxes per ton of freight carried—from 4 cents in 1907 to 18 cents in 1936.

The recent economic history of the coal gas industry is similar to that of the coal and railway industries. It has to pay the

increased costs of coal and transportation plus the increased costs of conversion due to legislation at the expense of productive industry; its employees and its customers.

No figures are available covering the generally increased cost of conversion of coal into gas. In one plant from 1928 to 1938 average wages paid per hour worked increased 13½%, but total taxes per ton of coke manufactured increased 322%. This compared with an increase of 334% from 1907 to 1936 in the taxes paid by the railways per ton of freight carried.

Doubtless the cost of producing, transporting and converting oil into gas has also been materially increased by the laws. But as less capital and less labor is required to manufacture oil gas than is required to manufacture coal gas, the political handicap on oil gas is lighter than it is on coal gas.

The MONTHLY invites discussions of any papers presented at regular meetings of the Technical Section as well as articles which appear on these pages. If you have any ideas to present to the gas industry, don't fail to let us hear from you.

· · · HELPFUL HINTS · · ·

STANDARD GAS FOR TESTING CALORIMETERS

H. J. Meredith

MANY attempts have been made to use a standard gas for testing Thomas calorimeters. Mr. Rosen of the Boston Consolidated Gas Company has suggested using a cylinder of illuminating gas, under pressure, for this purpose. The disadvantage of this is that it contains constituents which condense out under high pressure and re-evaporate as the pressure decreases, when gas is drawn from the cylinder. Consequently, the gas as delivered to the calorimeter does not maintain a uniform heat value throughout the contents of the cylinder.

A very satisfactory gas can be made by mixing Hydrogen and Methane, in the desired proportions, which will deliver a gas of constant B.t.u. This gas will be standardized on the Thomas calorimeter immediately after running a Hydrogen test and will enable quick checks to be made on the calorimeter, without changing gears. Further time can be saved if it is hooked up permanently through a regulating valve to the calorimeter gas-line. The mixture can be prepared at the plant, if desired, and a large number of tests can be run from a cylinder, if the mixture is prepared at about 1,000 lbs. pressure.

* * * * *

PREPARATION OF SAMPLE OF PIPE-LINE DEPOSITS FOR ANALYSIS

H. M. Hartong

OCCASIONALLY, samples of line-deposits containing solid material, moisture, and tar are submitted for analysis of the solid material, with the desire to identify it. It is necessary to remove the tar and the moisture from the sample. This can readily be done in one operation, quantitatively if desired, by a combination of the benzol extraction and Dean-Stark apparatus.

The sample is put in an alundrum thimble and placed in the A.S.T.M. extraction flask, such as is used for determining free-carbon in pitch, and the condenser and trap from the Dean-Stark apparatus is used to replace the small coil condenser in the former. In this way the tarry matter and the water are removed completely in one operation. The alundrum thimble can be suspended from two hooks attached to the bottom of the cork.

* * * * *

CORK BORER RACK

B. R. Hasselman

CAN you ever find the cork borer that you want in good condition? We took a strip of wood, drilled suitable holes, made legs of strap iron, and screwed it to the window sill. This arrangement has a distinct advantage of keeping the edges from becoming battered, as they do when tossed lightly in a draw.

* * * * *

We want "Helpful Hints" from your laboratory or plant. Send your contributions to H. J. Meredith, Chief Chemist, Koppers Company, Seaboard Division, Kearny, N. J.

Gas Engineer Elected Bank Director

GEORGE T. MACBETH, chief gas engineer, Westchester Lighting Company, Mt. Vernon, N. Y., was elected a member of the board of directors of the First National Bank of Mt. Vernon at the annual meeting, Jan. 10.

Mr. Macbeth is a member of the board of governors of the Mount Vernon Hospital, vice-president of the Rotary Club, and a member of the Society of Gas Lighting, American Gas Association, New York State Professional Engineers and New York Athletic Club.

Insull Leaves Utilities

ON January 3, Samuel Insull, Jr., become associated with W. A. Alexander & Co., one of Chicago's oldest insurance brokerage firms. Mr. Insull recently resigned from Commonwealth Edison Co. which his father, the late utility financier, headed for many years.

Report Describes Device for Measuring Gases

A DEVICE of remarkable accuracy and precision which is of the utmost value as a scientific aid in maintaining health and safety standards is described in detail in a report on the Bureau of Mines Haldane gas-analysis apparatus, just published by the Bureau of Mines, Department of the Interior.

Gas analysis is of fundamental importance in the determination and control of health and explosion hazards, and for many other purposes. The Bureau of Mines has made thousands of gas analyses with its modification of the Haldane-type gas-analysis apparatus in studies and surveys to improve health and safety as well as efficiency in the mining and mineral industries.

Advantages of Haldane Apparatus

The chief advantages of the Haldane apparatus are the accuracy and precision attainable in determining carbon dioxide, combustible gases, and oxygen, state L. B. Berger and H. H. Schrenk, authors of the report. Many types of gas mixtures may be analyzed with an accuracy and precision of 0.02 to 0.03 in percentage composition. In many instances this degree of accuracy is essential in determination of minor constituents. The design of the apparatus places certain limitations on the range of concentrations of gases that may be determined.

The principles of gas volumetric analysis as applied in the Haldane apparatus are described and the factors that affect the accuracy of analysis are discussed. As the quality of results obtained in gas analysis is largely dependent on perfection of technique, the analytical procedure is presented in such manner that the novice gas analyst may proceed step-by-step in familiarizing himself with the technique of operation. Faults in manipulation that are likely to produce erroneous analytical results are stressed. Calulations that are applied to analytical data are explained and illustrated by examples. General comments on the use of the apparatus and instructions for its maintenance are included. Difficulties commonly encountered and their possible causes are presented in tabular form. An appendix contains a tabulation of gas properties pertinent to gas analysis.

Copies of this report, Information Circular 7017, "Bureau of Mines Haldane Gas-Analysis Apparatus," may be obtained from the Bureau of Mines, Washington, D. C.

Bryant Acquires Roberts Lighter Business

COMMENTING on the increased importance of automatic features of gas ranges, The Bryant Heater Company, Cleveland, Ohio, announces the acquisition of the lighter business of the Roberts Brass Manufacturing Company. Earl Roberts, formerly president of the Roberts company, will act as manager of the appliance lighter division of The Bryant Heater Company.

New Equipment Facilitates Approval Testing

Dr. Vandaveer

By DR. F. E. VANDAVEER
A. G. A. Testing Laboratories

LARGE increases in the number and types of appliances and accessories cleared through the A. G. A. Testing Laboratories in Cleveland and Los Angeles each year have necessitated that every effort be made to increase the efficiency of handling and testing appliances. In addition to a greater number of tests required due to the more complex character of present-day appliances, approval standards have been expanded to provide for testing equipment for use with undiluted butane and propane and butane-air gas in addition to manufactured and natural gases.

With the larger number of appliances submitted to the Laboratories, the problem of expediting the handling of equipment became of increasing importance. Usually after being uncrated and assembled appliances are taken into the room where tests are conducted at various stations, often necessitating moving them several times.

If failure on certain tests occurs and the manufacturer wishes to make changes on the appliance at the Laboratories it is transported upstairs to one of the rooms set apart for such purposes. After corrections have been incorporated it is returned to the test room and then, upon completion of tests, is transferred to the shipping department for crating and shipment. The distances referred to above are not great and practically no time is lost if appliances can be easily moved when necessary. This practically necessitates placing all appliances except water heaters and light weight space heaters on rollers where they remain during most of the test work.

Due to the large number of types and sizes of appliances tested and the different sizes of legs, bases, or supports employed, it was necessary to design special equipment sufficiently flexible to accommodate any appliance received. It was further required that the rollers should operate quietly and permit moving appliances without damaging floors. Since a number of these rollers were needed for each type of appliance their cost had to be kept low without sacrificing strength, durability, and neat appearance. With the above factors in mind, several pieces of equipment were constructed as indicated hereafter.

In order to expedite handling and testing gas ranges, wooden platforms were designed and attached to two sets of rollers as illustrated in Figure 1. Low sides on the flat baseboards were added to prevent ranges from sliding off during moving. Two such platforms are used for each range. They are adaptable to any size or type of range with long or short legs or with a continuous metal base.

Boilers and furnaces vary greatly in size and weight and are usually so made that they must rest on a flat surface. It was, therefore, necessary to provide an iron platform 5 ft. x 3 ft. reinforced with angle iron underneath and mounted on 4 sets of double rubber-tired rollers. Two of these are shown in Figure 2.

A single platform is large enough to accommodate most boilers and furnaces tested and will support a weight of 3,000 lbs. A cast iron boiler set on this platform can thus be easily moved by one man. A sufficient number of platforms are provided (10) so that once the appliance is placed on it there is no need to remove it until all tests have been completed. These portable stands have been a valuable asset in speeding up the work on central heating appliances and also in keeping the test rooms neater in appearance.

For unit heaters, racks were designed and mounted on rubber-tired rollers to allow moving them easily and quickly as conditions demand. They permit raising a heater in place and holding it there during the tests, and are so designed that they will accommodate heaters of various sizes.

Two racks incorporating these features are shown in Figure 3. The one on the right illustrates the method of lifting the heater in place. The triangular pipe sup-

Fig. 1. Roller equipment for moving gas ranges

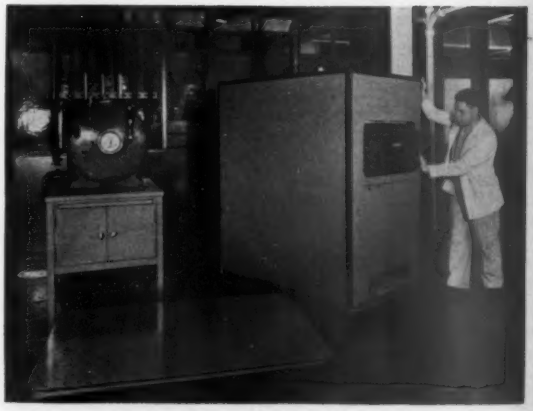

Fig. 2. Iron platform mounted on rubber-tired rollers for boilers and furnaces

Fig. 3. Unit heater test racks. At left, a heater is in place ready for test; at right, raising a heater for mounting

Fig. 4. Stands used in testing water heaters shown under the three heaters at right. A portable cabinet for propane or butane cylinders is shown to the right of the engineer with a 1/10 cu.ft. meter, pressure regulator, and pressure gage mounted thereon. Note also convenience of water drain connection located on wall near floor for small heater being tested

Fig. 5. Machine room containing, left to right, a sheet metal finger type brake, foot-powered shear, a spot welder, small lathe, and soldering equipment

Fig. 6. Mechanics' workroom containing a grinder, vises, work bench, electric drill press, and other small tools

port at the top to which the pulleys are attached merely slips in place and can be moved from one rack to another. The left rack in Figure 3 has a heater in place ready for test. It will be noted that it is suspended from pipe cross-bars, these being capable of fastening to the 4 vertical pipes at any required height. By means of eyebolts the rack can be narrowed to 26 in. and widened to 38 in. to accommodate different-sized heaters.

In testing water heaters it is possible to conduct all the tests at one station, making it unnecessary to provide stands or bases which are portable. However, to permit more ready observation of the burners and to make gas and air adjustments easier and quicker, heaters should be raised several inches above the floor. For this purpose wooden stands as illustrated under the 3 heaters at the right in Figure 4 were made. Being open at the back these stands permit storage of extra burner equipment or other parts supplied with the heater under test.

For testing appliances on propane or butane gases it was necessary to have a supply of such gases in each test room and all the manufacturers' rooms. Accordingly, it was decided to house the propane or butane cylinder in a portable cabinet with a meter pressure regulator, and pressure gage mounted in easily observed and accessible positions. One of these is shown to the right of the testing engineer in Figure 4. They have proven quite satisfactory, and 5 cabinets have been adequate for all testing operations on bottled gases since they are so easily moved from one room to another.

To further facilitate completion of appliance tests, it became obvious that every effort should be made to provide equipment for the use of manufacturers in making minor changes in construction of their appliances at the Laboratories. In many instances some alteration in construction becomes necessary before further tests can be continued. Most of these are such that it would not be economical to return the appliance to the factory, so the manufacturer has usually employed a local machine shop or tinsmith for the work. This has proven not only inconvenient but expensive to manufacturers, and has resulted in a considerable loss of time with a consequent delay in securing final approval of appliances.

To overcome these difficulties a number of tools and machines were purchased so that nearly any type of sheet metal work or machine work for altering appliance construction can now be done at the Laboratories. One room set aside for this purpose is shown in Figure 5. In the foreground is a 3-ft. finger type sheet metal brake, next to it a 3-ft. foot-powered shear, an electric spot welder, and on the bench a small lathe, and soldering equipment. A metal cutting band saw has been added since this picture was taken. In an adjoining room (Figure 6) a grinder, pipe cutting equipment, vises, work bench, electric hand drills, variable speed drill press, and other smaller types of necessary equipment have been provided.

The Wagging Tongue

THE most important type of advertising is the happily wagging tongue of the satisfied consumer. However, a tongue can be double edged, to praise or condemn, and, like the sword of Damocles, hangs over us—let us bear this in mind at all times."—A. G. HOLTAM, Cheltenham Gas Company, England.

Bryant Corp. Moves

ON February 1, Bryant Air Conditioning Corp., of Philadelphia will move their offices to their warehouse at 915 N. Front Street. This move, in the interest of efficiency, will consolidate sales, warehousing and contract execution under one roof.

ROMANCE IN INDUSTRY

(Continued from page 57)

"The Romance of Natural Gas." You may have seen some of the ads in the October issue of the A. G. A. MONTHLY.

An examination of these will, I believe, disclose that there is plenty of romance in the gas industry. I know of nothing more intriguing than a tiny gas flame on the top of your range, from gas which has traveled thousands of miles underground to prepare your evening meal.

We have carried out the concept by a strong use of pictures to create quick mental images and, in order that they be read, telling our messages as swiftly and concisely as possible.

Our customers have shown excellent response and interest in these advertisements, and we now know this program has served to bring to many of them a realization of the problems involved in the business of insuring a dependable supply of this clean, convenient, and economical servant, Natural Gas.

NATURAL GAS SECTION

(Continued from page 74)

ing the coming year. Members are urged to write us and elaborate on their thoughts as to what we can do to be of increasing value to their business and to the natural gas industry. By doing this, your section can correlate and coordinate its activities to better serve you. This type of guidance will fortify our courage, increase our enthusiasm and enable us to give members what they desire.

The history of the natural gas industry, past and present, is one of progress. As a group we must promote both our industry and the public well-being. The perfection of fuel service, increased public goodwill and united effort on the part of all elements of our business will keep the natural gas industry in a dominant position in the American business picture.

To make your Association more sensitive to the opinions of its members and the needs of the industry is the desire of its officials, committees and staff. This section can serve its members best by knowing the problems that confront you. Your leadership in carrying out the ideals and aims and the policies you inspire and guide are prerequisite to getting more results. The industry's history is inspiring; its future possibilities enormous. Help us to write a program of progress.

INDUSTRIAL GAS SECTION

(Continued from page 73)

the Industrial Gas Section, under J. P. Leinroth, indicates that its procedures will be modified only to the extent of adding the hospital field to its schedule through the medium of full pages in *Modern Hospital*—and using for the first time testimonial technique in copy and photographic captioning.

Publicity in the national trade, business and technical press is being stepped up more aggressively to promote the use of gas in all branches of commercial and industrial enterprise. Harry A. Sutton leads this activity.

For Help in the Pinches—Industrial Service Letters

Finally, the well established series of Industrial Service Letters for the information of industrial gas men is being continued through 1939. No. 29 has recently been completed and mailed to members of the section. These Industrial Service Letters are issued at intervals to call to the attention of the industrial gas fraternity current situations which are of a competitive nature or involve a drastic change of utilization technique. They also undertake to make recommendations of a sales or engineering nature aimed at meeting these situations.

Here we have no more than high-spotted the work the Industrial Gas Section has on the books for 1939. In review, it is apparent that the non-residential gas experts have really rolled up their sleeves. At the convention in New York next October, when the harvest of findings comes up for summary, you can expect a busy time if you're interested in bigger non-residential loads and revenues.

Personnel Service

SERVICES OFFERED

Twenty years' experience has made it possible for me to accumulate knowledge that could be used to advantage by either a large or small organization. Can train, manage and direct **retail** and **wholesale** men. Will travel anywhere. Now employed by one of the largest retailers. Conversant in appliance business. **1250.**

Public Relations, vice president of advertising agency, directing public relations for nationally-known corporation; former public utilities editor of financial daily; legal background; outstanding twelve-year record with large utilities; has faith in utilities' future; seeks opportunity to re-enter utility business with company. **1259.**

Thoroughly experienced man with industrial and commercial gas **equipment manufacturer** desires change. Pacific Coast territory preferred. Excellent references. **1261.**

Would like to make a connection with **manufacturer** of gas burning equipment. Ten years' experience in the warm air heating field. Will travel, preferably the Southwest if possible. **1262.**

Graduate mechanical engineer. Nine years with public utility. Strong record in promoting and **selling** industrial use of gas and gas appliances. Recently completed three years active duty as Captain United States Army, construction officer of CCC camps and commanding officer of CCC companies. Capable as business administrator or departmental correlator. **1263.**

Engineer, superintendent, **manager**—graduate engineer experienced in design, construction and operation of gas properties, supplemented by recent experience in **valuation** of gas and other utilities—reproduction including inventory, pricing and cost set ups; original cost and continuing property records. Also recent experience in design of by-product recovery equipment. **1264.**

Gas Engineer, experienced in the design, construction, operation and valuation of manufactured and natural gas properties is open for permanent or temporary position. **1265.**

SERVICES OFFERED

Industrial Heat Engineer, 27 years of age, technical graduate in heat engineering. Five years' experience on oil, gas, and electric industrial furnaces, seeks position along design, testing or sales-service lines involving industrial heating equipment. **1266.**

Eight years in charge street division distribution department and charge industrial department of large gas company. Previously in distribution department and charge fuel appliance laboratory of another large gas company. Last three years **selling, heating** and air-conditioning, surveys, heat loss calculations, etc. **1267.**

Manufacturers Representative (37) eighteen years' successful sales background with dealers and utilities, desires position, prefers Atlantic Seaboard, with reliable manufacturer domestic or hotel equipment. **1268.**

Sales Engineer, over fifteen years' experience in gas utilization field. Thoroughly familiar with all industrial heating problems. Reliable, ambitious, industrious. Opportunity to advance limited with present employer, where I have been employed nine years. Results can be demonstrated by sales records. Available on short notice. **1269.**

Graduate mechanical engineer, theoretical training plus several years' practical work in **combustion**. Experienced in testing, designing, and developing all types of industrial and domestic gas burning equipment. Has worked with propane, butane, natural and manufactured gas. (28). **1270.**

Graduate engineer. Eleven years in gas industry and four years with leading equipment manufacturer. Strong **selling** and **engineering** background in gas house heating, air-conditioning, including refrigeration and silica gel dehydration, industrial gas. **1271.**

POSITIONS OPEN

Manager for gas sales and merchandising. Personnel Service has furnished filed Confidential Classification Records; requests further suggestions and applications. Manufactured gas property serving medium size Eastern city. **0337.**

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